

Consumers'



Research

BULLETIN

OCTOBER 1949

THREE TELEVISION RECEIVERS	5
CARPET SWEEPERS	17
OPTICS OF TELEVISION	
VIEWING	19
For the Home	
Turkish Towels.....	8
Stopping "Furniture Wobble".....	10
Hotpoint Dishwasher.....	24
Automobiles	
Small Motor-Driven Buffs for Polishing	
Automobiles.....	7
Accessories for Water Injection in	
Automobile Engines.....	22
Miscellaneous	
Pocket Adding Machines.....	11
House and Barn Paints — The Meaning of	
Paint Formulas.....	13
Features	
Off the Editor's Chest.....	2
The Consumers' Observation Post.....	3
Brief 1949 Cumulative Index.....	26
Ratings of Motion Pictures.....	27
Phonograph Records.....Walter F. Gruening	31

CONSUMERS' RESEARCH

Vol. 24 • No. 4

BULLETIN

October 1949

Off the Editor's Chest

THERE is so much talk out of Washington, D.C., these days professing concern for the "welfare of our people" in various aspects of their lives that the uncritical person must assume the federal government is trying hard to bring down the cost of living and is only restrained in its noble efforts by some powerful Machiavellian force of unknown identity. Yet the largest single item in family budgets, particularly those in the lower income brackets, is food, and on many items prices are high beyond their natural market levels because of purchases by the federal government specifically designed to raise or support prices at a high level.

Take potatoes, for example. In the five years ending August 1948, the net loss to U.S. taxpayers on the federal potato support program was computed by the U.S. Department of Agriculture to be in excess of one hundred and seventy millions of dollars. At that time, the government was disposing of its purchases of the 1948 crop, that it had made to keep the market price high to the housewife, at 10 cents a hundredweight (a tenth of a cent a pound) to cattlemen for dehydrating for feed. In reality the potatoes were given away, for the 100-pound sacks in which the potatoes were sold could be turned back to the potato growers for 10 to 12 cents apiece. The housewife was at that time paying at the rate of \$3.80 to \$4.50 a hundred pounds for her potatoes at vegetable stands.

The high retail price of potatoes in the United

States made it profitable for growers in Canada where the support price was lower, to ship their product to the United States, and in many markets they were underselling their American competitors. Our government made representations to the Canadian government, and shipment of Canadian potatoes which thrifty U.S. housewives could buy cheaper than those raised in this country was discontinued. Those newspaper readers who saw the brief announcement of the ban on Canadian potatoes must have been puzzled at the whole affair, for there is a general impression that the federal government is committed to a policy of eliminating trade barriers between nations.

In any event potatoes are still high; there is again a surplus; and during the past summer's record hot spell many spoiled in government warehouses when they might better have gone to welfare agencies to feed relief clients and so provide taxpayers at least some return on their money.

Eggs, which are a high-quality protein food, often used as an economical substitute for more expensive meat, are also price-supported by the federal government. In the early months of 1949, federal officials took more than 160 million dozen eggs off the market in order to maintain or increase prices, near record highs, on the retail market. In the first week of August 1949, federal purchases had pushed the wholesale price of eggs to 53 cents a dozen, where the year previously they had been 48

(Continued on page 25)

Scientific and Technical Experts and Editors: F. J. Schlink, R. Joyce, Dwight C. Aten, M. C. Phillips, Erma A. Hinek, and A. R. Greenleaf. **Editorial Assistants:** Mary F. Roberts and B. Beam.

Symbols used to indicate sources of data and bases of ratings: A—recommended on basis of quality; AA—regarded as worthy of highest recommendation; B—intermediate with respect to quality; C—not recommended on basis of quality; cr—information from Consumers' Research's own tests or investigations; 1, 2, 3—relative prices, 1 being low, 3 high. Note that price and quality are completely differentiated in CR's listings; a quality judgment is independent of price; 48, 49—year in which test was made or information obtained or organized by the staff of Consumers' Research.

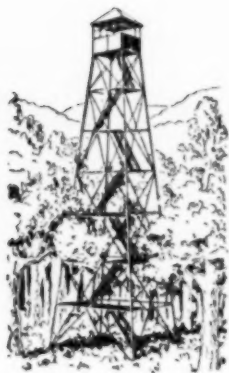
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*CR will, of course, gladly change addresses for men and women in the services as often as required by changes in station and other circumstances.

***For a brief cumulative index of 1949 BULLETINS preceding this issue, see page 26.

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The Consumers' Observation Post

PRICES ON MANY PRODUCTS that consumers buy will be higher this fall, according to a prophecy in the New York Times. There are a number of factors such as higher freight rates, higher prices of metals, and "fourth round" wage increases that will all be passed on to consumers in the form of higher prices for the finished products. One business executive is quoted as believing that the public likes and wants inflation. The politicians apparently do, but whether people generally like it remains to be seen.

* * *

THE BATTLE OF RECORDS between Columbia's 33-1/3 rpm.'s and RCA Victor's 45 rpm.'s goes on, much to the distress of the dealers who had hoped to have the conflict resolved, and to the consumer's confusion. Dealers at the convention of the National Association of Music Merchants took a vote on the popularity of the respective recording systems, according to Advertising Age, by a show of hands and the majority appeared to favor the Columbia LP's.

* * *

MEN'S SHIRTS should wear much longer than the 20-31 launderings reported in this column in August, writes Mr. A. E. Houstle, Jr., president of the Fulton Family Corporation laundry of Baltimore, Maryland. Two Fruit-of-the-Loom shirts of \$3.50 grade were processed (without wearings) by this laundry in regular production with other medium-starch shirts. One of the test shirts began to show wear at 100 processings and the other was still in good condition after 105 launderings. Mr. Houstle believes that any high-quality laundry should be able to duplicate these results and observes that the prime cause of shirt damage caused by the wearing of the shirt are: bottom edge of collar sides rubbing on shirt body, rubbing of neck and lower chin beard on top edge of collar, wearing too long before laundering, and perspiration, particularly on the back of shirts in the summer.

* * *

THE AUTOMOBILE ACCIDENT RATE among drivers 18 to 24 years of age is at least 50 percent higher than average, according to one insurance executive. He advocates an educational safety program for the younger drivers, preferably in the schools, to teach better driving. Another approach to the problem has been made by New York State where drastically increased insurance rates have recently been approved by the New York State Insurance Department for cars that are handled by young drivers. No doubt other states will follow New York's example unless the situation improves.

* * *

WHICH KIND OF CONSUMER ARE YOU? There are some 15 percent who buy quality no matter what the price; 70 percent who shop and are quality-and-price-conscious; and 15 percent who buy only on price, according to an estimate by Roger B. Corbett of the National Association of Food Chains, in Food Field Reporter.

* * *

ALUMINUM COOKWARE has been sold by door-to-door salesmen of the Consumers Sales Corporation with misleading claims that have brought legal action against the company by the Federal Trade Commission. The technique in brief has been to lead the unsuspecting housewife to believe that Consumers Sales Corporation is an advertising agency for Procter & Gamble, Lever Brothers, Colgate-Palmolive-Peet, and other soap manufacturers. The representation was made that the soap companies were interested in proving how much soap was actually being used so that the federal government might be persuaded to increase their allocations of fat and to do this the housewife was asked to turn in soap box tops or labels of the particular product she used. As a reward for cooperation, repre-

representatives of Consumers Sales Corporation offered housewives an "opportunity" to purchase sets of aluminumware, dinnerware, and silverware (alleged to sell regularly for \$100 or more) for \$56.90; \$1.90 down and \$5 a month for 11 monthly payments accompanied by a certain number of box tops or labels. The salesman who was successful persuaded a housewife to sign a contract agreeing to pay the \$56.90 and later when the merchandise was delivered she was asked to sign a "receipt" which turned out to be a promissory note. The lady was then thoroughly hooked. The F.T.C. reported that the Consumers Sales Corporation was not an advertising agency for the soap companies; had not been authorized to collect box tops; none of the items offered for sale was worth \$100 or more per set and the price at which they were offered was their customary selling price; that the aluminumware was falsely represented to have been approved by Good Housekeeping magazine. The housewives who were tricked into signing contracts to purchase such merchandise may need to obtain legal counsel to escape their continuing obligations to pay, but it would certainly appear that the agreements were obtained under fraudulent pretenses.

* * *

FREER, MORE COMFORTABLE CLOTHING for men in fall and winter is advocated by the executive editor of Men's Wear, who points out that men are becoming conscious of the difference between the lightness of a summer suit and that of a fall suit, which has considerably more shoulder padding and interior construction. He suggests a "natural silhouette" which would eliminate "stuff" in fall and winter clothes. If women can acquire a "new look," why shouldn't men do the same?

* * *

OVERUSE OF NARCOTICS in the United States is a matter of grave concern, reports Chemical and Engineering News. One difficulty is that there is a tendency among some physicians to prescribe the drug Dolophine more freely and in larger quantities than morphine or other opium drugs. While the drug is a satisfactory substitute from the medical standpoint, the magazine points out, it is habit-forming like morphine and heroin and should be restricted in its use.

* * *

THE RAISING OF VEGETABLES, which was once a simple operation, is now a complex problem in chemistry and new unsuspected hazards to health have been introduced into the food supply. One source of danger is apparently the application of nitrogenous fertilizers, especially nitrate of soda, to growing crops. In a paper on "Nitrate in Foods and Its Relation to Health," the late Professor J. K. Wilson of New York State College of Agriculture presented data to show that nitrates are often present in fresh and frozen vegetables, and prepared baby foods, including broccoli, cabbage, cauliflower, celery, lettuce, spinach, beets, in concentrations sufficiently large to cause poisoning. Infants are particularly susceptible and Professor Wilson suggested that the nitrate concentration in some vegetables may be responsible for cases of hemoglobinemia which has hitherto been attributed to nitrate in drinking water.

* * *

MEN'S SHIRTS have been selling at bargain prices this past summer, but new fall styles will not be so low in price, according to a report in The Wall Street Journal. Instead, leading manufacturers offer new collar styles, and a wide range of colors and patterns. Nylon shirts will be extensively featured. CR has a wear and laundering test of a number of well-known makes of nylon shirts in progress and a report will be forthcoming in an early issue.

* * *

YOUNG SCIENTISTS should be given a course in judging, guessing, and the scientific method, probably in their senior year, recommends a panel of college professors and scientists writing in Science magazine. Their report points out that the complexities of modern science have created a need for men trained in many fields of science. In addition to the necessity for specialization in certain lines, they consider it important to encourage or require the science student to bring his education and intelligence to bear on estimation and prediction problems for which he has inexact or incomplete information. Such a course, in the panel's opinion, would prevent a scientist from becoming stuffy and narrow in his point of view. They admit that it would be difficult to find an instructor adequate to teach such a course.

(The continuation of this section is on page 29)

Three Television Receivers

THE CHANGE from a seller's to a buyer's market hit the TV industry with heavy impact this past summer. Sizable price reductions on practically all manufacturers' lines of television sets were in evidence and in many cases discounts of 20 to 50%, even up to 70% in some cases, could be obtained. This condition quite likely has been a factor in the general reduction in the list prices of the newer models which have appeared this fall. Consumers are warned, however, that a price reduction cannot, in all cases, be taken at face value. Several manufacturers are now manufacturing and distributing what many euphemistically call "Metropolitan Receivers" in which the number of tubes and circuits used have been reduced to a bare minimum and, in some cases, poor quality parts have been used in addition. This has resulted in many receivers having poor sensitivity and offering, at most, an unstable picture of only mediocre quality except when the receiver is



Sentinel Portable Television Receiver, Model 400-TV

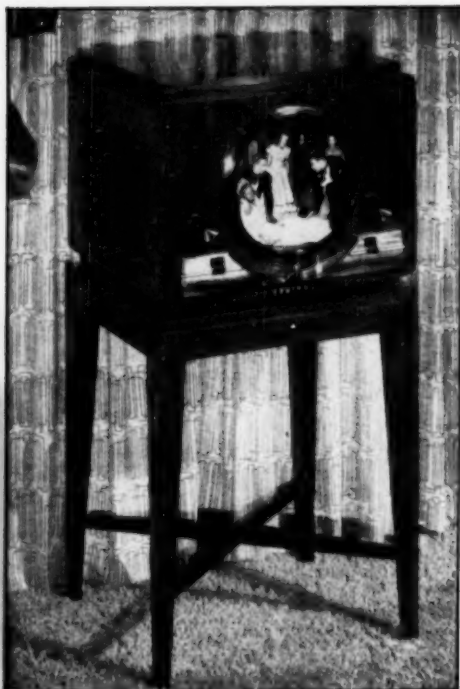


General Electric, Model 809

used in rather close proximity to a TV broadcasting station.

The surprisingly large price reductions by the dealers and the public's increased sales resistance that has been in evidence will doubtless result in the financial failure of a sizable proportion of the manufacturers, now numbering more than 50. The prospective buyer is therefore advised, unless he is in a financial position to take a big risk in his purchase, to buy only from a reputable dealer who carries makes which are nationally known, and manufactured by well-established companies. It is also well to keep in mind that some manufacturers have adopted the practice of changing model numbers and prices all too frequently, and it may often be possible to purchase at a very good discount a TV set which, while not carrying a current model number, does, in fact, incorporate the latest circuit designs of the manufacturer and is as good in every important sense as the most up-to-date model that was sent out to dealers to give them "something new to sell" in a difficult and highly competitive market.

The present trend in purchases of receivers indicates that sets with the larger tubes are being offered at lower prices, and are thus becoming more popular. All major manufacturers now include in their lines sets using 16- or 19-inch picture tubes. Prices on receivers utilizing 10-inch tubes are now com-



Zenith, Model 28T925R

parable in many cases with prices charged for sets using 7-inch tubes a year ago. It is also worth noting that only a little more expense to the manufacturer (other than the extra cost of the bigger tube) is involved in producing a 16-inch set than one of the 10-inch size.

In order to compete with the sets incorporating the larger-sized screens, some manufacturers have adopted a circular-shaped screen which utilizes the full face of the viewing tube. This is done either by distorting the picture as televised so that as received its height is greater, proportionately, than its width or by so enlarging the actual picture that the tube-end is completely filled. The latter practice can result in a considerable loss in the action televised. CR does not consider this a sound practice. The *Zenith 28T925R* in the listings provided for a circular picture completely filling the screen, but distortion made the picture appear as an oval, and a large percentage of the transmitted picture information did not appear on the viewing screen. (The set provided for reception of full picture information when desired.) It is best not to purchase a TV receiver on the basis of square inches of picture area, an indirect method of describing tube size, which can be and often is mislead-

ingly utilized in selling, but to consider only *picture-tube screen diameter*.

In previous listings of television receivers, CR has not considered the quality of audio output in arriving at a rating, but has merely included a brief appraisal of it. Because some manufacturers are still paying little attention to this important element of television receiver performance, which can be made very satisfactory at only moderate expense to the manufacturer, we are from now on taking audio quality directly into consideration, and an evaluation of sound quality will be reflected in the over-all rating on any TV receiver reported on.

In the listings following, all sets were for operation on 115 volts a.c. only. Ratings are cr49.

A. Recommended

Sentinel Portable Television Receiver, Model 400-TV (Sentinel Radio Corp., Evanston, Ill.) \$200. Weight, 37 lb. Power consumption, 175 watts. 23 tubes including 7-in. picture tube. Channel selection provided by 12-position switch (vernier tuning not necessary). Excellent choice of front-panel controls; efficient automatic volume control circuit on picture channel; use of intercarrier circuit; and components of good quality resulted in a set which was considered very easy to tune. Set was susceptible to picture distortion when weak signals were received and is therefore not recommended for reception in fringe or other areas where signals are weak. Over-all picture fidelity considered fair (2.7 mc. bandwidth). Brightness of picture, good. Operation very stable. Portable folding antenna supplied was ample for picture reception in strong-signal areas. Audio quality comparable to output of a good table-model radio; considered superior to a majority of the higher-priced table-model TV receivers tested by CR. Leakage current (a measure of the shock hazard present), 0.3 ma.; within accepted limits. *Sentinel Table-Model 405-TV* appears to have the same chassis, and it is believed the above comments would apply to it also. 3

B. Intermediate

General Electric, Model 809 (General Electric Co., Electronic's Park, Syracuse) \$330 plus installation and service. Power consumption, 150 watts. 21 tubes including 10-in. picture tube. Channel selection and fine tuning provided by 12-position switch and vernier. Choice of front panel controls, considered poor. The intercarrier circuit gave fair sound quality but required skill on the part of the user to obtain best picture quality. Over-all picture fidelity, fair to good (3.3 mc. bandwidth). Automatic gain control circuit (known as agc), considered an advantage and available in many new designs, not used in the *GE 809*. Metal-backed picture tube gave excellent brilliance of image. Synchronizing controls were critical in adjustment. Audio fidelity down 14 db. at 6000 cycles (poor). Sound channel showed 3% distortion at 0.3 watt, 8% at 1 watt, and 13% at 2 watts output. 10-in. speaker, properly baffled. Leakage current (a measure of shock hazard), well within accepted limit. 3

Zenith. Model 28T925R (Zenith Radio Corp., 6001 Dickens Ave., Chicago 39) \$390 plus installation and service charge. 325 watts. 28 tubes including 10-in. picture tube. Channel selection and fine tuning provided by 12-position switch and vernier. The turret tuner was so designed that stations normally assigned to one area would come in at adjacent positions of the selector switch, considered a slight advantage. Choice of front-panel controls, good, but fixed controls, behind doors in front, required frequent adjustment. Over-all picture fidelity, good (3.8 mc. bandwidth), but

"pairing" of lines was present which produced a line pattern at close viewing distances. Picture automatic-volume-control (avc) circuit worked well; weak or strong signals came in without readjustment of "contrast" control. Metal-backed picture tube gave excellent brilliance of image. Sound channel showed 2% distortion at 0.3 watts, 10% distortion at 3.2 watts. Used $5\frac{1}{4}$ in. speaker mounted at side of cabinet (a poor practice) and not properly baffled. Audio fidelity, down 9 db. at 8200 cycles, fair. No shock hazard found (leakage current negligible). 3

Small Motor-Driven Buffs or Disks for Polishing Automobiles

THERE is hardly a popular magazine or big city Sunday paper that does not carry an advertisement of one or more of the many small polishing attachments made especially to be used with a portable electric drill and recommended for polishing a car. Such a gadget, if it worked as claimed, would be a partial answer, at least, to Dad's quest for an easy method of shining up the family car. Unfortunately, the relatively low power capabilities of the usual $\frac{1}{4}$ -in. capacity portable drill greatly limit the value of the polishing tools.

CR purchased one of the buffing attachments, consisting of a lambs wool buffing pad stretched over a $4\frac{1}{2}$ -inch diameter rubber disk, through an advertisement in The New York Times, from Chance & Co., 1170 Broadway, New York 1, for \$3. Attempts were made at polishing an automobile with *Simoniz Paste Wax*. The revolving buff did take off the top layer of the wax and gave a semi-polished finish in some instances, but the necessarily more arduous job of producing the high sheen or gloss, which is the really hard part of the job when it is done by hand, could not be accomplished with the power buffing pad. Each of two portable drills tried lacked the "pep" needed to maintain the high speed required for the final polishing, when the necessary pressure was applied. As a result, some unpolished excess wax remained on the car body, especially noticeable in the form of ridges which reflected the method of application of the wax. These could not be removed in anything like the

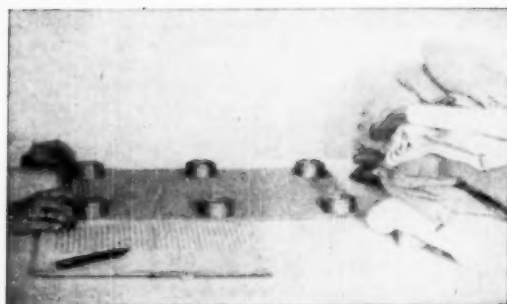


Lambskin buffer mounted in chuck of portable electric drill.

brief time that one might reasonably expect with use of a motor-driven buff, as compared with hand rubbing.

While it is undoubtedly true that an automobile can be polished with use of a buffing disk of the sort described, the portable drill that is to be employed should have much more power than is available in the kind commonly used by consumers, and should be able to maintain its speed under the load imposed upon it when heavy pressure is applied in polishing. The average home owner is not at all likely to have a portable drill of the sort that would do the job well.

Turkish Towels



Measuring Turkish towels.

THE housewife usually buys bath towels because they have a particular combination of color and texture that pleases her. If she is thrifty she also tries to buy towels that are durable.

Unfortunately, towels are sold in such a way that it is not easy for her to determine for herself whether or not a towel will actually have the qualities she wishes. Towels are sold by brand name, and although manufacturers make different types, these are not identified in the stores by number or name. Shoppers buying for CR found that clerks sold by size and price only.

The homemaker, therefore, must buy towels on the basis of "feel" and examination. Some understanding of how the towels are made will help her choose better goods. Cotton terry (Turkish) towels are made of a soft fabric with a woven-in, uncut pile on both sides. In weaving, two sets of warp yarns (running parallel to the length of the towel) and one set of filling yarns are used. One set of warp yarns, with the filling yarns, form the "ground" fabric, while the second set of warp yarns form the loops.

The absorbency of the towel is determined principally by the loops. These should be numerous, not sparse, and not less than one-eighth of an inch in height. Too-long or uneven-length loops increase the tendency to catch or snag. The ground weave should be firm, for this helps hold the loops securely.

Two common constructions of terry towels are described as "single loop" and "double loop." In single-loop construction, a single thread forms the loop. This construction is used on the finest quality towels, although it is also used for loosely woven, low-quality towels.

In double-loop constructions two pile warp threads passing through the fabric side by side form the loops. Double-loop construction is sometimes preferred because it makes for good absorptive qual-

ities. Towels with double-loop pile, however, will lack wearing qualities as compared with single-loop towels of equal weight, if the grain in absorptive area is accompanied by a corresponding loss in the strength of the ground weave. In the present study, only one towel, the *Pacific Super-sorb*, had double-loop construction.

Absorbency also depends on color. White towels are the most absorbent; pastel shades are next, and towels with deep tones have the poorest absorbency. All towels tested were either of pastel shades or white.

The durability of a towel depends on the firmness of the ground weave (and either too tight or too loose a weave may reduce absorbency). A strong towel that is tightly woven will be durable because the loops are held securely, but it may not be very absorbent, and will be considered harsh by some users.

Towels are usually woven with selvages on both sides, but some are woven on wide looms and then cut apart. The raw edge is then hemmed or overcast with machine stitching. The thread of the overcastings is likely to catch and break and the stitching of the hems may break and rip out when the towel is pulled in use. Since the exposed raw edges may fray, both finishes are considered inferior to selvedge edges.

Standards

The American Society for Testing Materials has four general classifications for bath towels based on the ply of the ground warp yarns and the ratio of the number of pile yarns per inch to the warp yarns. The requirements for the different types are set forth in the accompanying table.

Double-ply yarn in the ground warp of a towel increases its strength in the warp direction — the direction of greatest strain and the direction in

TABLE 1 — PHYSICAL REQUIREMENTS OF TERRY TOWELING (FINISHED)

	Type 1	Type 2	Type 3	Type 4
Warp yarn (ground), ply	single	single	double	double
Count, min., yarns per in.				
Ground warp	22	26	26	30
Pile	44	26	52	30
Filling	26	30	32	34
Weight, min., oz. per sq. yd.	8	8	10	11
Breaking strength, min., lb. (Raveled strip test)				
Warp	18	26	34	44
Filling	30	30	34	34

which breaks usually come in bath towels. Ply yarns are more expensive to make than single-ply yarns, and towels with the double-ply construction may be expected to be more expensive than those with single-ply construction.

The consumer can see from the table that the heavier towels have a higher thread count which means greater firmness of "ground" construction, higher tensile strength, and greater durability.

In CR's tests, towels were examined to see if they conformed with the A.S.T.M. specifications. It is of some interest to note that the last time Consumers' Research tested bath towels most of the towels tested were of type 2 and type 1 construction, whereas in the current test, by far the greater number of towels were of type 4 construction. Type 4 towels with the two-ply ground warp and an equal number of ground and pile threads appeared to be the most practical type for general use. Their heavy warp gives assurance that the loops will not pull out too easily and their rate of absorption can be satisfactory to good. They are a little heavy, however, and some people may prefer a medium weight towel with a soft fairly firm weave that is substantial enough in structure to give good service and absorb water quickly. Towels of lighter weight will of course be more economical to launder if sent to a commercial laundry which charges by weight.

The rate of absorption was measured on one-inch wide specimens cut from the warp and filling directions of towels that had been washed at 212°. These test strips were suspended before a graduated scale with one inch of their length immersed in a solution of a dye in water. The height in inches to which the solution rose after one and five minutes was recorded.

One towel of each kind was measured before washing, and then washed five times in an automatic washer and dried in an automatic dryer. (Previous studies have shown that shrinkage is greatest during the first five washings.) The towels were then measured and the percent shrinkage in length recorded in the listings (shrinkage in width was not appreciable in any case). Shrinkage

ranged from 5 to 12%, and averaged about 8%.

There are six standard sizes of terry towels, under the Simplified Practice Recommendation of the Bureau of Standards. Most towels conform to these fairly well, although measurements made on towels of the same nominal size showed differences of as much as an inch in length even between two of the same make. In the listings, the nominal sizes of the towels are given, and the price ratings are calculated on the price per square inch of the towels, based on the nominal sizes. All of the colored towels were found to be colorfast to washing.

Ratings are based primarily on the strength and rate of absorption of the towels.

A. Recommended

Fieldcrest (Sold by John Wanamaker, Philadelphia) \$1.25. White with green border. Type 4. 24 x 48 in. Weight, 13.5 oz. Shrinkage in length, 7%. Breaking strength: warp, 68 lb.; filling, 52 lb. Rate of absorption very good. **AA1**

Harmony House (Sears-Roebuck's Cat. No. 96-3340M) 57c, plus postage. White with blue border. Type 2. 22 x 44 in. Weight, 9.7 oz. Shrinkage in length, 10% (relatively high). Breaking strength: warp, 38 lb.; filling, 42 lb. Rate of absorption good. **1**

Martex (Wellington Sears Co., 65 Worth St., New York City) 75c. White with two green stripes. Type 4. 18 x 36 in. Weight, 12.4 oz. Shrinkage in length, 8%. Breaking strength: warp, 64 lb.; filling, 38 lb. Rate of absorption good. **1**

B. Intermediate

Callaway ABSORBized (Callaway Mills Co., LaGrange, Ga.) \$1.49. Blue. Type 4. 27 x 50 in. Weight, 10.3 oz. (somewhat low for type). Shrinkage, 8%. Breaking strength: warp, 40 lb. (low for type); filling, 51 lb. Rate of absorption fair. **1**

Cannon (Cannon Mills, Inc.) 67c. Peach. Type 2. 20 x 40 in. Shrinkage, 7%. Weight, 11.6 oz. Breaking strength: warp, 56 lb.; filling, 43 lb. Rate of absorption fair. Hemmed on one side (undesirable). **1**

Dryfast (Cannon Mills, Inc.) 47c. Yellow. Type 2. 20 x 40 in. Weight, 12.5 oz. Shrinkage, 10%. Breaking strength: warp, 43 lb.; filling, 52 lb. Rate of absorption good. Thread count in filling direction low for type. Hemmed on one side (undesirable). **1**

Haynes, A Cone Product (Montgomery Ward's Cat. No. 16-3912C) 89c, plus postage. Peach with blue border. Type 2. 22 x 44 in. Weight, 8.6 oz. Shrinkage, 11% (relatively high). Breaking strength: warp, 33 lb.; filling, 42 lb. Rate of absorption fair. **1**

Harmony House (Sears-Roebuck's Cat. No. 96-3408M) \$1.49, plus postage. Light cherry pink. Type 4. 22 x 44 in. Weight per sq. yd., 12.9 oz. Shrinkage, 7%. Breaking strength: warp, 44 lb.; filling, 48 lb. Rate of absorption fair. **2**

Martex (Wellington Sears Co.) \$1.56. Peach. Type 4. 24 x 46 in. Weight, 14.4 oz. Shrinkage, 5%. Breaking strength: warp, 61 lb.; filling, 53 lb. Rate of absorption fair. Excessive loss of shape in laundering. **2**

Pacific Supersorb (Pacific Mills, Boston) \$1.98. Blue. Type 1. Cotton and viscose rayon. 24 x 48 in. Weight,

15.5 oz. Shrinkage, 5%. Breaking strength: warp, 39 lb.; filling, 64 lb. (satisfactory for type but poorly balanced). Rate of absorption good. Excessive loss of shape in laundering. 3

The following B-rated towels had a relatively poor rate of absorption compared with the other towels tested, but met, or nearly met, A.S.T.M. specifications for their type.

Cannon (Cannon Mills, Inc.) 98c. Light green. Type 4. Weight, 7.4 oz. (a little low for type). 22 x 44 in. Shrinkage, 7%. Breaking strength: warp, 59 lb.; filling, 43 lb. Rate of absorption relatively poor. 1

Dundee (Dundee Mills, Inc., 40 Worth St., New York 13) 89c. Pink. Type 2. 22 x 44 in. Weight, 12.4 oz. Shrinkage, 8%. Breaking strength: warp, 50 lb.; filling, 42 lb. Rate of absorption poor. 1

Fieldcrest (Sold by R. H. Macy & Son) \$1.49. Blue. Type 4. 22 x 44. Weight, 15 oz. Shrinkage, 6%. Breaking strength: warp, 51 lb.; filling, 59 lb. Rate of absorption poor. 2

Harmony House (Sears-Roebuck's Cat. No. 96-3413M)

\$1.49, plus postage. Blue with wide patterned border. Type 4. 22 x 44 in. Weight, 12.3 oz. Shrinkage, 6%. Breaking strength: warp, 47 lb.; filling, 55 lb. Rate of absorption poor. 2

Cannon (Cannon Mills, Inc.) 89c. Light green. Type 4. 16 x 30 in. Weight, 13.1 oz. Shrinkage, 6%. Breaking strength: warp, 65 lb.; filling, 62 lb. Rate of absorption poor. Hemmed on one side (undesirable). 3

C. Not Recommended

Muscogee (Sold by J. J. Newberry Co. 5 & 10c Stores) 33c. Rose. Type 2. 18 x 36 in. Weight, 7.6 oz. (low). Shrinkage, 12%. Breaking strength: warp, 35 lb.; filling, 44 lb. Rate of absorption fair. Thread count low in filling direction. Overcast on one side (undesirable). Excessive loss of shape in laundering. 1

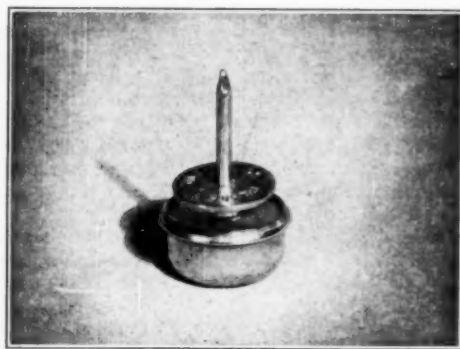
Harmony House (Sears-Roebuck's Cat. No. 96-3440M) \$1.89, plus postage. Light cherry pink. Type 4. 24 x 46 in. Weight, 13.8 oz. Shrinkage, 6%. Breaking strength: warp, 38 lb. (low for type); filling, 50 lb. Rate of absorption poor. 3

Stopping "Furniture Wobble"

IF YOU ARE TROUBLED with a wobbly table or sideboard on an uneven floor or are using folded paper shims under a dressing table because one of the legs is a little short (or the floor a little lower at one corner), you may be interested in a little gadget called *Levelmatic* which is now being marketed.

At first glance it appears to be nothing more than the usual metal "glider" which is normally fastened into the bottom of the legs on furniture to prevent marring of floors and to permit the particular article to be easily moved. Actually, *Levelmatic* is different; it consists of a small plunger or piston working against a substance (said to be "bouncing putty" or silicone plastic) which gives an automatic position-adjusting action because of its peculiar combination of properties of viscosity and elasticity.

With a *Levelmatic* under each leg, an article of furniture will not rock because each leg tip makes contact with the floor. Original differences in leg length or floor variation up to 3/16 inch can be accommodated, and it will work satisfactorily over differences up to 5/16 inch if small pads or washers (not supplied) are first inserted on the prong.



Levelmatic

A. Recommended

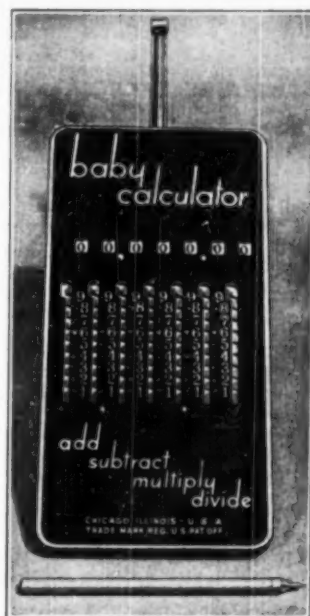
Levelmatic (Blake Industries, 2355 Guardian Bldg., Detroit 26) \$1 for a set of 4. One set required for each article of furniture on which the device is to be installed; on this account, the price was considered high. The improvement occasioned by use of *Levelmatics*, however, may be well worth the high cost to many people, depending upon how much trouble they may be willing to incur to do the leveling job by other and more familiar means. Was not difficult to install following directions on container. 3

Small or Pocket Adding Machines

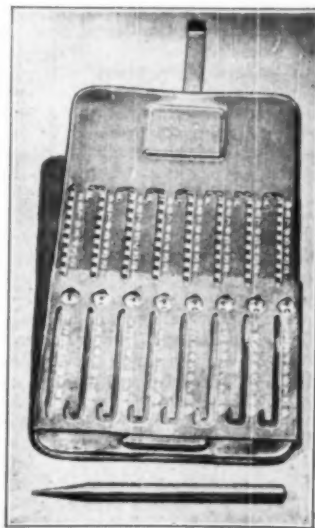
SEVERAL small adding machines or "calculators" are available at prices which are low in comparison with those of the key-operated standard types used in offices, and there have been many advertisements of what might be called "substandard" adders in the last year or two. Some have been merchandised with such optimistic advertising claims that their manufacturers have been in trouble with the Federal Trade Commission. The fact is that the better of these small devices *will* add correctly if operated correctly, but none tested are by any means equal in convenience of use to standard adding machines, and none, of course, supply the permanent record on paper tape that is often desirable, and sometimes essential. In fact, it is rather difficult to imagine any office or merchandising situation in which the cheap calculators have a practical and real advantage over a pad and pencil.

There are two distinct types: (1) the one (exemplified by the *Addometer*, a desk type) which is automatic in that the dials are geared together intermittently in a 10-to-1 ratio, so that when the total of any column becomes equal to or greater than 10, the 1 is carried automatically to the next column to the left; (2) the kind (*Tasco* and *Baby Calculator*, both pocket types, weighing about 5 ounces) which has no gearing, making it necessary in some cases for the operator to "carry one" by a somewhat complex mental and manual operation to the next column when the total of a column becomes equal to or greater than 10. (It is necessary to remember a rather complex set of rules even to use the device for simple addition, and additional rules if subtraction, multiplication, and division are to be worked.)

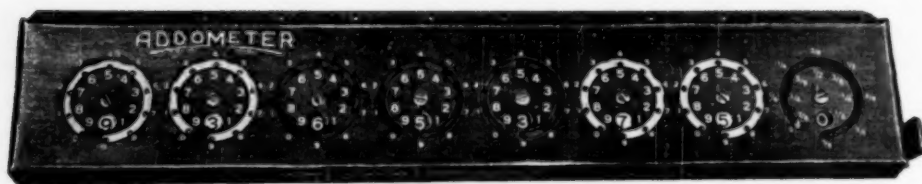
The second type seems to be of little value, as some of the operations which lead to inaccuracies, such as carrying over digits in adding 1 to 99 or 8 to 192, must be done by a special operation, and a mistake can very easily be made. In the *Tasco*, the indicating slides had a tendency to stick, a happening which always proved disconcerting, especially since no visible printed record is made, and such a failure usually required repeating the operation from the beginning. Of course, if the operator fails to note the failure of the slide to move to its



Baby Calculator



Tasco Pocket Arithmometer



Addometer

proper position, an erroneous result will be obtained.

Each of the devices is operated by a stylus which is inserted in a hole opposite the number to be added, and the indicating dial or slide turned or pushed, respectively. Subtracting is done usually by simply moving the dial or slide in the opposite direction.

The operations involved in multiplying and dividing are so much more laborious when done on these calculators than with paper and pencil that it is judged that few would want to use the machines for those processes. (The *Addometer* directions show a procedure for multiplying, but dividing is not mentioned.)

Other devices similar in general design to the three listed here have been sold, but these were the only ones found at the time of the test.

B. Intermediate

Addometer (Reliable Typewriter & Adding Machine Co., 303 W. Monroe St., Chicago 6) \$12.95. Desk model, weight, 15 oz. This machine has 8 dials in a row, operated by a stylus inserted into depressions in the dials, which are made of some plastic material, and geared together to give automatic carryover from column to column. In one model, all dials are marked from zero to nine, another model has the dial at the extreme right graduated in fractions from 0 to 7/8 to facilitate handling common fractions of inches. The operator must hold the stylus vertically, and must turn the dial fully to the stop; if this is done, results are accurate. Multiplication can be done, though not rapidly or conveniently; division can be done by repeated subtraction, setting down on paper the number of times the divisor is subtracted before moving to the right. If a long column of figures is to be added, it is probably easiest to add the digits of each column separately, starting in the column at the right just as in addition by hand; was found slower, however, than adding by hand when the figures are already set down on paper. For adding figures which must be picked off several sheets, it is probably faster to use the machine than to set down each figure by pencil and

then add by hand. A purchaser should try each dial for its ability to turn freely from nine to zero, before accepting the machine. 2

C. Not Recommended

Baby Calculator (Distributed by Planet Sales Co., 145 W. 45 St., N.Y.C.) \$2.50 at stationery stores (later model at \$2.95 has 8 instead of 7 columns). Operates by means of slides which are not geared together; the operator must in some cases "carry one" by a special mental and manual operation (see text). Directions for use are clear, and if an operator uses the machine frequently enough to remember them, it can produce correct results, but the infrequent user would be more likely to arrive at the correct totals by the use of pencil and paper. The machine has 7 columns, but the columns are not directly below the openings in which the totals appear, an inconvenient feature. It is difficult to see how the device would make addition or subtraction easier than (or as easy as) performing the same operations by hand. Multiplication and division can be done also, but with even greater inconvenience than with the *Addometer*. 1

Tasco Pocket Arithmometer (Tavella Sales Co., 25 W. Broadway, New York 7) \$2.20 at Hoffritz cutlery stores and stationery stores. An 8-column machine on the same principle as *Baby Calculator*, except that instead of a second set of numbers beside each slide for subtraction, numbers for subtraction are on a separate piece which slides over the numbers used for addition. The slide fitted so poorly that the stylus caught on the edge of the slide and could not be pushed to the proper stop if the operator were not on watch for this trouble. Numbers on the slide were not clear. Construction considered altogether unsatisfactory. 1

Liberty and Governmental Power

"THE history of liberty is a history of the limitation of governmental power, not the increase of it. When we resist, therefore, the concentration of power, we are resisting the processes of death, because a concentration of power is what always precedes the destruction of human liberties."—From an address of President Woodrow Wilson before the New York Press Club, 1912.

House and Barn Paints — The Meaning of Paint Formulas

Editor's Note: From the "average consumer's" standpoint, paint is a very simple problem. You just buy the right amount of any well-known brand of paint at the store, and you hire a painter to put it on. Actually, the problem of paint choice is a difficult one, not only for the large industries, government departments, and other expert users, but also for the layman, whose problems are rendered more difficult because as a rule he does not recognize that there is a problem. It is not a matter of indifference whether an excess of thinners is present; whether the amount of oil has been skimmed, and whether oil is linseed or some other. Anyone who has \$100 or more to spend on a painting job, including the cost of the paint, will find it well worth while to understand the method used in stating formulas on labels, so that, for example, he can tell when the paint contains the normal or prewar amount of oil, or whether it is one of the newer formulas in which the oil content has been restricted to reduce manufacturing costs.

We wish it were possible to express the paint problem more simply and in a few words, but unfortunately this cannot be done. There are certain fundamental elements in the question of house painting which the consumer must understand if he is to buy a product that will give him good and economical service, and in making his choice, he must remember that the cost of the paint itself is a rather small matter compared with the total cost of the paint and the painting work; that, therefore, the selection is not a matter of relative indifference, but is one that may involve a mistake that could cost him several hundred dollars. Not only may the coat immediately applied be a bad and short-lived one, but the result of a poor choice may be to make future painting more difficult and expensive.

The accompanying article has been written by a paint technologist who has studied the subject for many years, who has done, we believe, an exceptional job in presenting the problem in such a way that the layman who recognizes the importance of correct painting can be so informed that he will choose wisely and with long-run economy. The first article deals with some of the kinds of paints to avoid (a very important point, since many undesirable paints have been offered with very attractive sales claims); a discussion of the loss to the consumer involved in the continuance by manufacturers of paints containing less than the normal proportion of linseed oil; an analysis of the methods of showing paint composition on the labels, and what the consumer can learn from the labeling; the relative value of linseed and other oils; the effect of reductions of white lead content on paint quality. A second article on this subject will discuss house paints that do not contain white lead (they have special suitability for certain locations), so-called "one-coat" house paints, advice on how many coats should be used with different types of paint; use of aluminum paint for a priming coat; the desirability of not painting oftener than necessary; how to judge the condition of the deteriorated coating on a house that has not been painted for some years. Ratings of various brands and kinds of outside house paint will also be included in the second article.

ALL of the raw materials for making paint are now in sufficient supply. Most manufacturers can produce all the paint they can sell and can make it as high in quality as they choose. Having taken the easy course of continuing the wartime level of depreciated quality during the period of general rise in prices, the industry now faces the difficult task of improving quality at a time when the public expects prices to decline or at least to level off. Although most brands of paint as yet show

no great improvement over their wartime quality, an increasing number have distinctly improved during the past year and a few have fully returned to pre-war standards.

Leadership of the recent trend toward better paints has come so far from some of the manufacturers of moderate size whose trade is chiefly with painters and retail paint stores. The few large manufacturers with national distribution and advertising for the most part lag behind. Consumers

therefore will now find it profitable to shop carefully for their paint needs and to examine closely the brands of the manufacturers of medium or smaller size whose factories are nearby.

It is wise, however, to avoid unfamiliar brands of paint, brands that appear to come from an unknown factory in a distant city, paints that bear only the name of a merchant who is not a paint manufacturer, and brands that do not show a careful statement of the composition or formula on the label. When a manufacturer offers more than one brand of paint for a given purpose it is safe to assume that the cheaper brands are paints of inferior quality. Also to be avoided are paints that make a play on the popular term "plastic," that claim to contain marvelous "synthetic" ingredients of undisclosed nature, or for which claims of unusual durability or faultless performance are made. It is unwise also to buy paints said to be made partly of "re-processed" material, which usually means material recovered from the overspray in water-washed spray booths, from old paint that has gone bad in storage, or from spoiled batches in the factory.

Apparently war surplus paints from Army, Navy, and other government sources are still being offered to the public. They should not be purchased, no matter how low the price. All useful stocks of war surplus paints were disposed of long ago. In peacetime, government agencies seldom have surplus paint and if they do it is offered to the other government agencies before it can reach the public. Many of the wartime paints were made for special military purposes and were quite unsuitable for normal civilian use. It should also be remembered that the shelf-life of paint is limited. There is no assurance that paint will remain in usable condition much more than a year, unless exceptional care is taken in storing it.

During the war and the subsequent period of shortages the formulas commonly printed on paint labels were not always changed to keep up with the repeated changes manufacturers had to make in the composition of their products. The states in which the law requires correct formulas on paint labels refrained from strictly enforcing such laws during the uncertain times. Most manufacturers now are able to plan their production and print their labels for a year at a time and apparently have brought their label formulas back into harmony with the composition of their paints. Occasionally, however, discrepancies are found that the maker excuses on the ground that he had a large stock of labels printed before he changed the formula. Under such circumstances the more reliable manufacturers overprint the old labels with the new formula. The discrepancies perhaps will soon disappear as the states in which formulas are required begin again to enforce their labeling laws.

Many paint formulas still report "titanium-magnesium" or "titanium-barium" pigment among

the pigments in the paints even though the composite pigments formerly described by those names are no longer manufactured. Originally titanium-magnesium, for example, was a mixture of 30% by weight of titanium dioxide and 70% of magnesium silicate sold by the pigment maker to the paint maker. Now the paint maker must buy the ingredients separately and mix them as he grinds his paint. This involves no harm to the consumers' interests as long as the proportions are kept at the 30-70 ratio, but the practice would become a deception if a paint manufacturer changed the proportions to, say, 20% titanium dioxide and 80% magnesium silicate.

The vogue for paints of deep colors that has been noted in the last year or two is now less emphasized in advertising. Instead, some manufacturers are offering brands of house paints or wall paints in a white or a gray "tint base" together with two or three selected tubes of color-in-oil or packages of dry colors to be added to the tint base before using. By selecting the right colors any one of some hundreds or thousands of tints can be made as chosen by the customer from a complicated chart in the dealer's store. The tint bases are short of full measure by the volume of the color that is to be added. The scheme greatly reduces the stock of paint the dealer needs to carry and protects him against the risk of carrying large stocks of colors that may prove unpopular. It may also help reduce the risk to the purchaser of getting old paint. It is doubtful, nevertheless, whether the consumer really demands any such enormous number of colors to choose from.

House and Barn Paints for Exterior Wood Surfaces

Most brands of house paint are still of the oil-restricted variety that came into general use in 1943 during the wartime scarcity of materials. Such paints are cheaper to make than the previous oil-rich paints. Much of the industry, particularly the larger manufacturers, wish to continue making paints with the reduced amount of oil and will do so unless consumers express a vigorous preference for the better paints that some makers are now beginning to offer.

Pre-war oil-rich house paints of grade 1 contained at least 0.25 gal. of pigment, 0.61 gal. of linseed oil, and not more than 0.13 gal. of thinner and drier in a gallon of paint, ready to use. The oil was mostly raw linseed oil, though a small proportion of it, say 0.05 gal., was sometimes bodied oil. (Bodied oil has been greatly thickened in viscosity by heating; it is not to be confused with boiled oil, which contains driers but is not thickened.) The earlier oil-restricted paints contained typically 0.25 gal. of pigment, 0.24 gal. of raw linseed oil, 0.23 gal. of highly bodied oil, and 0.27 gal. of thinner and drier. By using so much thickened oil much of the

linseed oil could be replaced by inexpensive mineral spirits. But whereas 0.87 gal. of the oil-rich paint remained in the coating after it was spread and dried, only 0.73 gal. of the oil-restricted paint remained in the coating.

Painters objected to the earlier oil-restricted paints because they were harder to brush and because they found that about 1-1/5 gal. of paint was needed where 1 gal. of oil-rich paint would have sufficed. Not only was more paint needed, but it took more labor to apply the extra paint. The saving in cost per gallon was offset by the extra amount of paint, to say nothing of the extra labor required. When so applied, however, the oil-restricted paints gave about the same service as otherwise similar oil-rich paints. The oil-restricted paints generally lost their gloss and began to chalk and fade a little sooner but they stayed a little cleaner than the oil-rich paints.

The present oil-restricted paints have been improved in brushing properties and in spreading capacity by not thickening the bodied oil so much and by using thinners that evaporate more slowly. They can be spread over nearly as much area as would be covered with oil-rich paint but when that is done the coating of oil-restricted paint left after drying is thinner than that of the oil-rich paint. For example, a gallon of oil-rich paint spread over 600 sq. ft. of properly primed surface leaves a coating 2.3 mils (0.0023") thick, but a gallon of oil-restricted paint on 600 sq. ft. leaves only 1.9 mils of coating. Within practical limits of coating thickness, good white paints can be expected to last about one year for each one mil of thickness. The oil-restricted paints, therefore, leave the user a choice among applying more paint per coat, applying an extra coat, or having to repaint somewhat sooner than would be necessary with oil-rich paint.

By no means all of the paint industry, as mentioned previously, is content to continue making oil-restricted paints. An increasing number of manufacturers since 1948 have restored at least a part of the missing oil to their paints. Fully restricted paint contains about 3 3/4 lb. of oil a gallon. Paints with 4, 4 1/4, or even 4 1/2 lb. of oil a gallon are now obtainable. Fully oil-rich paint contains at least 4 3/4 lb. of oil a gallon; there are several such now on the market.

With linseed oil at 28 cents a pound (May 1949) the change from fully oil-restricted to fully oil-rich paint increases the manufacturer's cost for raw materials at least 30 cents a gallon. Although the change is shown in the paint formula, only those few purchasers who know how to read formulas can tell the paints apart. The formula for a fully oil-rich paint will indicate that at least 85% by weight of the vehicle (liquid ingredients) is linseed, or linseed and other drying oils, and no more than 15% is thinner and drier. In a fully oil-restricted

paint the drying oils may be only 68% of the vehicle and the thinner and drier more than 32%.

Consumers should remember that there are two ways of giving formulas. The first way, which was more widely used before 1943, states the content of pigment and vehicle in percentages by weight of the total paint and then states the content of each pigment in percentage of the total pigment and the content of each liquid in percentage of the total vehicle, thus:

Pigment	64%
Vehicle	36

Total	100%
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Pigment:	
Basic carbonate white lead.....	7%
Basic sulfate white lead.....	17
Zinc oxide.....	32
Titanium-magnesium.....	44

Total.....	100%
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Vehicle:	
Raw linseed oil	41.0%
Bodied soybean oil.....	21.6
Bodied tung oil	5.4
Mineral spirits	17.0
Drier.....	15.0

Total.....	100%
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In this form it is easy to see that the paint is fully oil-restricted because the drying oils come to 41 + 21.6 + 5.4 = 68% of the vehicle and the thinner and drier to 17 + 15 = 32% of the vehicle.

The other way of stating the formula of this paint, which has become more prevalent recently, is as follows:

Basic carbonate white lead.....	4.48%
Basic sulfate white lead.....	10.88
Zinc oxide.....	20.48
Titanium-magnesium	28.16
Raw linseed oil.....	14.75
Bodied soybean oil.....	7.76
Bodied tung oil	1.94
Mineral spirits.....	6.12
Drier.....	5.43

Total.....	100%
------------	------

In this form the figures for thinner and drier look smaller, 6.12 + 5.43 = 11.55. To apply the rule for recognizing oil-restricted paint, add up the percentages of the liquid ingredients thus, 14.75 + 7.76 + 1.94 + 6.12 + 5.43 = 36. The total ve-

hicle is therefore 36% of the paint. The percentage of drying oil in the vehicle is then:

$$\left(\frac{14.75 + 7.76 + 1.94}{36} \right) \times 100 = 68\% \text{ and the}$$

percentage of thinner and drier in the vehicle is

$$\left(\frac{6.12 + 5.43}{36} \right) \times 100 = 32\%.$$

Thorough guidance for reading formulas understandingly will be found in Technical Bulletin No. 804 entitled "Classification of House and Barn Paints as Recommended by the United States Department of Agriculture." Another excellent publication is the Bureau of Standards' Building Materials and Structures Report BMS 105 entitled "Paint Manual with Particular Reference to Federal Specifications." These are for sale by the Supt. of Docs., Washington 25, D.C., the first at 10 cents and the second (bound in cloth) at \$1.

The classification proposed in Technical Bulletin 804 has now been adopted by a few manufacturers and is printed on the labels of their best grades of house paint and barn paint. Those brands that are so marked are fully oil-rich paints in order to qualify for the grade 1 rating. Fully oil-restricted paints classify in grade 3 among the six grades proposed.

The paint chosen to illustrate the two forms in which formulas are reported contains soybean oil and tung oil as well as linseed oil in its vehicle. With linseed oil at 28 cents, soybean oil at 14 cents, and tung oil at 20 cents a pound at wholesale (May 1949) the reason why many manufacturers are using soy and tung oils is obvious. If the saving in cost is passed on to consumers there should be no objection to the substitution. Soybean oil is a softer drying oil than linseed but tung oil is a harder drying oil; the blend for all practical purposes is as satisfactory as the bodied linseed

oil it replaces. Linseed oil has been kept abnormally high in price by government subsidy (support prices) to farmers raising flax. The relative use of linseed and soybean oils can be expected to fluctuate according to their prices in the wholesale market. Tung oil is further limited by the fact that only bodied tung, not raw tung oil, is suitable for use in paints (raw tung oil wrinkles badly as it dries but bodied tung oil, which has been thickened in viscosity by heating it, dries in a clear, smooth film without wrinkling).

Some paints, especially barn paints, contain such oils as gloss oil, talloil, and cottonseed pitch. These are cheap ingredients of questionable merit. They may sometimes be disguised under such ambiguous names as "paint oil," "vegetable oil," or "drying oil."

The amount of white lead used in mixed-pigment house paints has been shrinking for many years but the reduction has been greatly accelerated since 1943 by the more than average increase in the price of lead. In house paints of the titanium-lead-zinc (TLZ) group, not less than 25% by weight of the total pigment should be zinc oxide. The zinc oxide and white lead added together should be not less than 50% and might better be at least 55% of the total pigment. The rest of the pigment should be titanium-magnesium or titanium-calcium. If the titanium pigment is titanium-barium the white lead and zinc oxide should come to at least 55% of the total pigment. If the titanium dioxide is listed separately from the extender it should be not less than 15% of the total pigment in white paint and not less than 12% in tinted paint.

This article will be concluded in a forthcoming BULLETIN. Ratings of various kinds of outside house paint will be included in the second part.

More Than Skin Deep, by M. C. Phillips

THIS BOOK, which came off the press in February 1948, is a sequel to *Skin Deep, the Truth About Beauty Aids, Safe and Harmful*, a 1935 best seller by the same author. The new book, based on authoritative data in CR's files, brings up to date the information about cosmetics in the earlier volume and presents a wealth of new material, with ratings and discussions by brand name. Hair dressing customs and various cosmetics used from early Colonial days down to the present time are described. There is a chapter tracing cosmetic advertising from its beginnings in this country, with evaluations of misleading claims made in specific cases. Still a third chapter discusses events leading up to the passage of the present Food, Drug, and Cosmetic Act in 1938 and the protection which it and other consumer-protective legislation now afford the purchaser of cosmetics. Practical, helpful advice is furnished in the last chapter entitled "What Cosmetics Will and Will Not Do." Schools, particularly, will find the book a valuable reference in the teaching of courses in personal hygiene and related topics.

Our supply of the special CR edition (paper-bound) is exhausted, but the publisher of the trade edition (cloth bound with stiff covers) has advised us that he still has copies available at \$2.50 which may be ordered direct. Order with remittance should be sent direct to: Richard R. Smith, Publisher, 120 East 39 St., New York 16, N. Y.

Carpet Sweepers

A CARPET SWEEPER is useful in almost every home, principally because of the ease with which it can be put into action for hurried brush-ups to remove crumbs, ashes, or other surface litter from rugs. It appears that longer life will be favored for most rugs and carpets if a carpet sweeper is used for daily cleaning, and a vacuum cleaner reserved for more thorough periodic cleanings, say once or twice a week. An exception is antique Oriental rugs. One authority warns that a carpet sweeper should never be used on these because of the brushes' tendency to pull out tufts.

For dirt imbedded in rugs, of course, a vacuum cleaner should be used. In the test recently completed by Consumers' Research, and in tests made in previous years, no carpet sweeper was found to be nearly as efficient in removing dirt from rugs as a good vacuum cleaner. In the current test, for example, a *Hoover*, Model 61, upright vacuum cleaner (revolving-brush type), which was previously rated A in CR's BULLETINS, removed about 15% more dirt from the surface of long- and short-pile rugs than the best carpet sweepers tested.

Carpet sweepers appear not to work well on linoleum. Even the best of them in the present study left enough grit to be noticed underfoot, and two scraped the linoleum when they were pushed hard enough to pick up the visible litter.

For best results, carpet sweepers should be pushed with smooth, even strokes and with as little pressure as will do the work. This is important because the brush must spin freely to transfer the dirt from the floor into the pan of the sweeper. In CR's tests, it was found that effectiveness in sweeping up dirt depended to a large extent on the brush height and on the adjustment range. Where this range was large, and the brush made good contact with the surfaces cleaned, the effectiveness in cleaning was good (it also followed that these sweepers were harder to push). All of the sweepers tested were designed so the brush height was adjusted automatically.

All of them also had some means for cleaning the brush. This is important, for if the sweeper is to do an efficient job the brush must be kept free of hairs, threads, and string which otherwise would wrap around the brush and impede its action. All of the brushes could be removed for cleaning also, although on two, the *Maid of Honor* and *Ward's*, replacing the brush in the cleaner was difficult. Removable brushes are considered desirable, even when sweepers have combs. If it becomes neces-



The carpet sweepers included in the present study.

In the background from left to right: *Streamliner*; *Fuller*; *Vanity*; *Ward's*; *Maid of Honor*; "Little Carpet Sweeper"; *Victoria*; *Touch-O-Matic*, *Maid of Honor*. In use, *Grand Rapids*.

sary to clean a brush, a non-flammable cleaning fluid is recommended; cleaning should, of course, be done out-of-doors.

A sweeper should be emptied before it is put away. This is especially important if it is to be stored with the pan in a vertical position, for when the sweeper is hung up, dirt may fall onto the brush and will in turn fall out on the rug when the sweeper is used again. (Emptying prevents the breeding of pests in the dirt.)

CR's tests included practical sweeping tests, examination of the construction of the sweepers, and tests to determine their ease of operation. Comments concerning the ease of pushing the sweepers were based on measurements made of the pushing force required to operate them.

In the sweeping tests, the long- and short-pile carpets were thoroughly and uniformly cleaned with a vacuum cleaner before the tests were made.

A *Hoover*, Model 61, vacuum cleaner was tested in the same way as the carpet sweepers and used as a standard of reference. The dirt mixture used included sand, nut shells, bread crumbs, corn meal, orange seeds, buttons, cotton lintens, and wool

fibers. Ninety grams of this dirt was scattered on the test surface (an area of about 28 sq. ft.), after which the cotton lintens and wool fibers, which tended to cling together, were shredded and spread uniformly by hand. The sweepers were weighed before and after each sweeping trial. Ten trials were made, five in each direction, on each rug surface (to eliminate the effects of nap direction). Most of the sweepers showed better efficiencies on the long-pile carpet than on the short-pile carpet.

Measurements were taken to determine the sweepers' compliance with U.S. Treasury Department Specifications 524a. Important deviations from specifications are noted in the listings. All the sweepers tested had a rubber bumper to protect furniture.

A. Recommended

Grand Rapids (Bissell Carpet Sweeper Co., Grand Rapids 2, Mich.) \$6.95. Metal outer case. Weight, 6.2 lb. Sweeping efficiency good. Fairly easy to push compared with other sweepers tested. Sweeper is emptied by pushing a single lever. 2

Streamliner (Porter Steel Specialties, Inc., Shelbyville, Ind.) \$7.95. Wood, fiberboard, and metal outer case. Weight, 7.5 lb. (heaviest of the sweepers tested). Sweeping efficiency good. Fairly easy to push. Sweeper is emptied by turning a crank over the bumper. The *Streamliner* and the other Porter sweeper tested had their handles attached to a rod at the center of the top. (Other sweepers had a bail over the outer case.) The Porter design is probably advantageous since it permits reaching under furniture edges a little farther and more easily than with the other kind of a handle attachment. Whether this would prove to be sufficiently strong and durable in practice is not known. 2

Touch-O-Matic, Maid of Honor (Sears-Roebuck's Cat. No. 11-06615) \$7.29, plus postage. Wood and metal outer case. Weight, 7.1 lb. Sweeping efficiency good. Somewhat hard to push compared with other sweepers tested. Sweeper is emptied by squeezing the bail and a bar parallel to it. Handle a little short. 2

Vanity (Bissell Carpet Sweeper Co.) \$8.45. Metal

outer case. Weight, 7.1 lb. Sweeping efficiency good. Somewhat hard to push compared with other sweepers tested. Sweeper is emptied by a single lever. 3

B. Intermediate

Fuller (Fuller Brush Co., Hartford, Conn.) \$9.50. Metal outer case. Weight, 7 lb. Sweeping efficiency fair. Fairly easy to push. Sweeper is emptied by pushing down on a button on the top of the carrying case, which releases the pan; this may then be removed and emptied. Considered somewhat inconvenient to use compared with lever arrangement for emptying. The handle of this sweeper could be operated from one side only (considered undesirable). Brush had only 18 tufts per row; specifications call for 24. 3

Victoria (E. R. Wagner Mfg. Co., Milwaukee; Sears-Roebuck's Cat. No. 11-06608; Montgomery Ward's Cat. No. 86-272Y) \$8.50. Metal outer case. Case had a window on top to permit observation of the brush and the pans and their contents. Weight, 6.8 lb. Sweeping efficiency fair. Fairly easy to push. Trays are emptied separately by means of small projecting tabs on each tray. 3

* * *

"Little" Carpet Sweeper (Porter Steel Specialties, Inc.) \$3. This is a small sweeper and so failed to comply with specifications in many respects. Although it can be used as a toy, it also has some use in hard-to-get-at places, for example, under low furniture. Its size also permits convenient sweeping of stair carpets. Metal outer case. Weight, 2 lb. Sweeping efficiency fair. Easy to push. Two pans are emptied separately by use of tab on each pan. 1

C. Not Recommended

Maid of Honor (Sears-Roebuck's Cat. No. 11-06613) \$4.49, plus postage. Metal outer case. Weight, 6.7 lb. Sweeping efficiency poor. Easy to push. Sweeper is emptied by means of a single lever. 1

Ward's (Montgomery Ward's Cat. No. 86-267Y) \$4.59, plus postage. Metal outer case. In appearance and details, substantially the same as Sears-Roebuck's *Maid of Honor* (rated C. Not Recommended, above). 1

Corrections and Emendations to Consumers' Research Bulletins

Loud-Speakers The address of James B. Lansing Page 22, Col. 1, 2 Sound Inc., is 7801 Hayvenhurst Ave., Van Nuys, Calif.

Delete last paragraph of text at top of Col. 1, and substitute the following: The prices quoted on the *Western Electric* and *Klipsch* speakers are net prices. The consumer net price of the *RCA*, Model LC1A, is now \$105 for speaker and roll-off network only; \$345 with cabinet.

The fourth line in the listing of the *Altec-Lansing 604B* (Fourth Group) should read "*RCA LC1A*,

Stephens P52A [not 25A, as printed], and *Altec-Lansing 604B*."

Power Lawn Mower In the listing of the *Coldwell Bear* Page 8, Col. 1 21", the statement that the "cast April '49 Bulletin gears not running in oil did not meet Federal Specification requirements . . ." was intended to refer to the transmission gears of the mower and not to any part of the Briggs & Stratton engine. (Through an error in arrangement of sentences, comment on the gears appeared to relate to the engine instead of the mower itself.)

Optics of Television Viewing

Editor's Note: Questions have been raised as to the possible effects of television viewing on the eyesight. Several hints have been noted in the press and in letters from subscribers that viewing of the television screen is bad for the eyes. An airplane pilot, according to report, was asked by his insurance company whether or not he had a television receiver; when he said yes, the comment was made that, after about two years, its use might have an unfavorable effect on his vision. Warnings about the eyestrain and eye-fatiguing effects of watching a television screen have been issued by the New York State Optometric Association.

CR has investigated the topic and referred various questions to well-qualified consultants; the accompanying article gives a brief digest of their opinions.

Brightness of Image and Surroundings

If television images were perfect, the most important factor in producing eyestrain, tenseness, and fatigue would be the great contrast in brightness between the screen and its darker surroundings.

Experiments seem to indicate that visual acuity and recognition of contrast both reach their most favorable value for a given brightness when the surrounding area is illuminated at about the same level as the area of the viewing screen itself.

If the television screen is only 5 times brighter than the surroundings, the undesirable effects are not very marked; perhaps a brightness ratio of 10 to 1 is not too serious, but in practice, in the home, the brightness ratios are enormously higher. In fact, in reading a book in the library, the surface of the book may often reflect 100 or 200 times as much light as its surroundings, which may, for example, be a dark rug which has a low reflecting power compared with the printed page, and which besides may be receiving much less direct and reflected light than the page. One especially well-qualified illumination expert is convinced that this matter of an unfavorable brightness ratio is a major cause of eyestrain, tenseness, and general fatigue in reading and in the performance of many other visual tasks.

Results of researches in this field should bring about the use of appreciable amounts of general lighting in motion-picture theaters. Manufacturers of office furniture and linoleum, among others, have developed surfaces of higher reflecting power than was common formerly. (Gray filing cabinets and linoleum desk tops of a rather light gray tone are beginning to come into wide use.)

With reference specifically to the television problem, recommendations have been made that the cabinets be of light finish. It has even been sug-

gested that the area surrounding the television screen might be increased in brightness by the use of a diffusing medium such as plastic transilluminated by light-sources placed behind it. It was also suggested that there might be built into the rear or top of the cabinet, a light-source which would throw light upon the walls. Lamps when associated with a television set should be so placed that they will not illuminate the television screen too much and so "dilute" the image.

Television screens are now in some cases bright enough that considerable light can be used in the room, and users of television sets would find it advantageous to bring up the level of room illumination as much as can be done without unfavorably affecting the television image itself. In any case, a light tone for the finish of the cabinet surrounding the screen would be helpful.

In part, the tendency of set owners to view their television pictures in total darkness is encouraged by bad design of screen surroundings. Set manufacturers have unfortunately used lumps of brass, chrome, and glittering plastic which provide unpleasant reflections, and it is partly in an effort to dispose of these that the consumer tends to reduce room brightness to a minimum in many cases. It is undesirable that the picture should be masked by areas that are dark or black, but it is likewise a mistake to mask it with shining surfaces which give mirror-like, bright-spot reflections. In this connection, one misguided manufacturer has built his set with a mirror on all visible surfaces to "provide an attractive front on the receiver when it is not in use," which is surely putting the cart before the horse, since the important time for the user of a television set is when it is in use.

Dr. Peter C. Goldmark of Columbia Broadcasting System has discussed the theoretical considerations involved in brightness and contrast in television viewing in *Electrical Engineering*, March 1949.

Size of the Television Screen

There are several inherent properties of television which make increasing the brightness or viewing the picture from a closer position difficult. No matter how closely one scrutinizes a television screen, and no matter how bright it is, it is impossible to see details which are smaller than a square whose height is approximately that of the scanning line which is $1/525$ th of the total height of the picture area. To resolve the detail that is available, the picture is preferably viewed at a distance which is at least 7 times the picture height.

The Journal of the American Medical Association suggests a distance of ten feet or more, provided the size of screen and room permit this; but since the distance depends on both the size of the screen and the individual's vision, each person can choose the distance which, for him, is the most comfortable. The A.M.A. also suggests, that the viewing should be as nearly *perpendicular* as possible to avoid distortion and make fusion of the image less difficult.

While we would naturally view an 8 x 10 photograph within arm's reach, we must view a television screen at a considerably greater distance in order not to be conscious of the grain of the picture. This, in itself, causes greater eyestrain, and this fact, combined with the dark surroundings, probably accounts for most of the deleterious effects, which are not confined merely to eyestrain, but extend to bodily strain and tenseness (these are a part of the tiring effect that comes from close visual work).

One optical specialist reported that, from inquiries among friends, he learned that one person who looked at the picture for a half-hour reported that his eyes felt tired. Others complained of the blurring which is produced by "ghosts," the reflections from housetops, and the absence of satisfactory sharpness in the image itself. The problem, of course, is worse for people who need glasses and do not wear them, or do not have glasses that are well-suited to distances from which they would normally view the television screen.

The television screen has about 525 lines vertically, corresponding to a rather coarse screen as compared with a half-tone of a photograph appearing in a newspaper or magazine, which is likely to be of the order of 100 lines *per inch* (not total, as in the case of the television screen). The television image is obviously enormously coarser than the grain of a photographic emulsion as found on a photographic negative or a print on smooth paper. One must therefore sit far enough from the television image that the lines are not visible. Enlarging the television image simply means that one must view it from a greater distance in order to obtain the same result of not being conscious of the individual lines that make up the picture. However, from the standpoint of eyestrain, the Journal

of the American Medical Association considers a larger screen more favorable than a smaller one because it permits clearer vision at a great distance and gives a larger visual angle. Using a magnifier gives but very slight visual advantage, and, at best, the magnifier can give satisfactory images up to angles of only about 30 degrees off the axis.

Actually the size of the picture, and particularly of its details, is small. This requires steady and continued fixation of the picture by the eyes. Improvement in this respect will be had only when the number of lines making up the vertical height of the image is increased, so that a finer-grained image is presented, as may be practicable in the future.

Blurring of the Image

Experiments have shown that fatigue of the eye muscles is enormously greater when the reading matter is slightly vibrated than when it is stationary. The strain and fatigue of a reader are very obvious when he attempts to read printed matter which is being vibrated only slightly. The same can be observed when attempting to read freshly printed proof of printed matter which has been smeared slightly before the ink is dry. The eyes attempt, consciously or unconsciously, to focus the "out-of-focus" printed matter, and the effect is annoying and increases fatigue. One person familiar with the subject estimated that eyestrain would be experienced by a large majority of the users of television sets, because of difficulty in keeping sets accurately tuned. For example, turning the picture up before the sound may cause an unsteady and distorted image which "annoys the eyes." Don't sacrifice picture stability for extra brilliance.

Color filters, which one TV accessory manufacturer refers to as "reducing glaring, jiggly image reception and eyestrain . . . scientifically developed light filter . . . your health as well as your fullest enjoyment of your receiver demand it," or light-polarizing filters, are not effective as supposed. As one man has put it, television is a virgin field for exploitation of visual aids of any kind. The effect of the available filters in reducing the brightness of the light, which is about the only effect they would have that could be important, does not usually exceed 50%, and the brightness control knob on the television receivers can vary the light intensity through a much greater range without the need for any special accessory devices.

Some people complain of watering of the eyes in viewing television. This may be due to the great contrast between the central and peripheral fields observed by the eye. Filters, it may be added, do not markedly benefit this condition. Besides, filters are not helpful under the conditions where the room is relatively dark and the picture screen is bright. As one expert commented, rather than use a filter in such a case, it would appear to be

more desirable just to turn on some light in the room so that the general illumination is a little better.

There is no real advantage in the blue and other colored tube screens; what they do is to cut off some of the yellow in the light which is present in the room, and the effect is as though the general light level in the room had been reduced. If there are cases where the general light level *must* be high, then the blue-colored screen might have some utility. The polarizing screens may actually polarize the light in the wrong plane, but even if the polarizing is correct, their effect will be little except to reduce the glare somewhat, and that is not considered important.

Using the term in the sense that photographers do in speaking of prints, the latitude of the television image is somewhat less than that of a photographic print, and enormously less than that of a photographic transparency. The effect of this is to increase the tendency toward "dilution" of the television image by extraneous light from the room. It also has an effect in reducing the visibility of fine details, for experimental evidence indicates that much smaller objects can be seen when they contrast well with their background than when the contrast is low.

These are believed to be the major factors involved in what some are beginning to term "televitis." Some are obviously inherent in the television image, but improvements may result in course of time, at least to a degree. The fact remains that owners of television sets who are going to view the screen for an hour, or longer periods, should give attention to factors within their control that affect the conditions of seeing.

Suggestions for Television Users

View the screen in a lighted room, using as much light as possible without diluting the image too much. This means that the brightness of the television equipment itself should be as high as possible, and *the immediate surroundings of the television screen should reflect more light than is reflected from the dark finishes that are usual on television cabinets.* Don't sit too close to the screen. The position of the viewer should be comfortable, and one should not be looking *up* at the set. In tuning, turn the sound up before making the final

setting of image brilliance. Steadiness of image and brilliance should be comfortably balanced.

Don't wear sunglasses while watching television pictures. Rest your eyes frequently by glancing around the room. Older persons, whose eye muscles have less accommodation, may need special eyeglasses for "middle-distance" viewing.

Exercise care with the set; don't "investigate" it yourself. The hazards of working on a television set while it is in operating condition and connected with power lines have often been mentioned. Two other hazards are worth noting, however: The television tube if broken can produce the same grave danger of a lasting wound which does not heal that has been reported in connection with the tubes of fluorescent lamps (see CR's BULLETIN for March 1949; reprints of the article are available at 10c). Therefore, in any case where a tube has been broken by accident, it is important to go to a physician at once if any particles of glass have been imbedded in the skin or flesh. Above all, children should not be permitted to play with the set under conditions where they might cause an implosion of the tube; or, of course, to play with or handle the tube itself in the event, for example, that a defective one is removed from the set to permit insertion of a new one.

There is some danger of injury from X-rays if one watches a television set closely for too long periods. The danger may be particularly significant with children because their superior ocular convergence will often permit them to view from a position very near to a television screen. For this reason they should be cautioned to sit at a suitable distance from the screen, as already defined. Except for the unusual case mentioned, the danger from X-radiation is considered remote in the case of direct-view tubes up to the 12-inch size unless operated at greatly excessive voltage, but as larger size projection-type television sets become popular, the problem may be considerably more serious. Besides the picture tube, one of the rectifier tubes used in television sets may also produce X-rays at the high voltages used, which go up even to 80,000 in some cases. X-rays, wherever encountered, should be treated with respect and caution as grave permanent impairments of health can result from an overdosage or a long continued mild dosage.

And BOSTON, too -

LAST MONTH Consumers' Research Bulletin made an experimental appearance on a limited number of New York newsstands and, quite unexpectedly, on certain newsstands in Boston and vicinity, also. It appears that an energetic Boston distributor happened to hear of our New York venture at the last minute and on the day that the September issue came off the press, beat a path to CR's door to urge us to include Boston in our experiment. It was pretty short notice, but we managed to get some copies off by special delivery. We hope that Boston subscribers will tell their friends about our new venture.

New Accessories for Water Injection in Automobile Engines

CR's July 1946 BULLETIN presented an article discussing the purpose and value of injection of water or water-alcohol mixture for automobile engines. The present article deals with various devices that provide for injection of water or water containing an alcohol into the fuel systems.

The primary purpose of available devices is, or should be, to reduce or prevent detonation (ignition knock or pinging) under certain conditions which tend to produce it. A minor secondary effect of the injection of water or water-alcohol is to reduce the rate of carbon formation; there will also be a tendency to remove carbon which has already been deposited in the engine (chiefly on piston heads and on valves). Whether or not this is due to a so-called "mechanical effect" of the fluid in the cylinders, or to its effect upon the fuel-air mixture, or some other cause, has not been determined.

When water alone is injected into the intake manifold of the engine, a degree of suppression of the knock or pinging will be obtained but there will be a slight decrease in power output. Current engineering opinion as to the cause of the decrease in power is that with devices which inject solid water (atomized or sprayed), there is so little time for evaporation of the water in the manifold that the atomized injected water enters the cylinders in a liquid state, thereby taking up for its evaporation some of the heat from the mixture which might otherwise be converted into power.

In an effort to avoid the loss of power or performance of the engine, recent development work on anti-detonant injectors was directed toward using mixtures of alcohol and water in varying proportions. Mixtures suitable for airplane engines were, however, found unsuited for best effects in automobile engines. One relatively new mixture, *Vitol* (now called *Victane*, and used with *Vitameter* injection equipment), is said to contain 85% alcohol, 15% water, and also 3 cc. tetra-ethyl lead (Ethyl Fluid) per gal.; this involves the very menacing hazard of lead in a volatile compound. It appears that the highly toxic methyl alcohol (wood alcohol) is likely to be used instead of the more expensive, less poisonous denatured ethyl alcohol.

It is important today to recall that the primary purpose of anti-detonant injection during the war in airplane engines was to permit the use of fuels of much lower octane values than ordinarily required by the engine. This is far different from using injection in an automobile engine which with proper spark adjustment does not knock, or pings very slightly, on regular motor grade gasolines, for

under such conditions the value of any device for injecting an anti-detonant is extremely doubtful. The only proper application of anti-detonating devices is on an engine whose compression ratio and other characteristics are such that on open throttle (pulling hard) it really requires premium-grade gasoline — that is gasoline with higher anti-knock value than the regular grade. Passenger car engines do not require premium fuel at low throttle.

While tests have shown that there may be a slight power increase when injection is used with regular fuel in an engine requiring no higher octane rating than that fuel provides, the actual gain provided by injection, even with spark further advanced, probably does not exceed 2 percent. Even this increase is not attributed to the anti-knock quality of the injected fluid, but to its cooling effect in the intake manifold, with a consequent minor increase in the weight of mixture taken in in each charge entering the cylinders. "Hot rods" use cold intake and secure considerable power increase at expense of quality of performance at low throttle (which will be poor on account of bad vaporization and distribution). When the entering mixture is cooled somewhat, a greater amount of mixture (by weight per cubic inch of engine displacement) is drawn into the cylinders; this increase accounts for a small increase in power output. As the power gained is small, the equivalent amount can frequently be obtained by correct spark setting alone without the need for extra gadgets.

The reader of CR's BULLETINS should be put on notice, so to speak, by the fact that almost invariably when an injection device is installed, the serviceman is instructed to advance the spark setting. The improvement which occurs is then credited to the injector, although part or most of the improved performance is, of course, due to the better adjustment of spark advance. If the spark advance had been correct (optimum) when the device was installed, the installation of the fluid injector would have resulted in a loss rather than an increase in power, unless the spark was further advanced to compensate for the slowing down of the burning rate of the fuel-air mixture in the engine which occurs when the anti-detonant is injected.

To repeat for emphasis, the use of an anti-detonant injector system is to be recommended only when the engine requires fuel having a higher octane rating than that which is available in the regular grade. Normally, the octane rating of the fuel is above the engine's requirement, and in such cases injection of an anti-detonant will have no

practically useful effect, and would be equivalent to using a fuel of higher octane rating, such as ethyl gasoline, when it is required. A good unit would permit use of low-grade gas in place of the regular grade. With the elimination of knocking (which does no harm if slight when the engine is pulling hard at slow speed under heavy load with accelerator fully depressed), there will be a loss in power unless compensation is made for the injection of anti-detonant by advancing the spark somewhat.

One of the devices sold to consumers for adding an anti-detonant effect to the fuel operates supposedly on small quantities of water vapor which it draws from above the water level in the radiator. The quantity of water vapor available in this way is far too small to be practically significant. It will not control detonation and should have only a trifling effect upon carbon formation. When the anti-detonant is supplied from a reserve tank of some capacity, the device must be so designed that the fluid will be introduced only when the engine is working under conditions that make it tend to knock; to obtain 100 percent humidity of the mixture, with water being vaporized into the engine, at all times, about a gallon of water would be required every 3.6 hours at a car speed of 40 miles per hour; so frequent replenishment of the water supply would make use of the device impracticable for most consumers.

Various alluring claims are made: "Burn water in your car," "Increase your horsepower 20 to 30 per cent, giving you 15 to 20 per cent more miles per gallon."

Such claims may, of course, be safely ignored, for gasoline engines do not burn water, and the addition of water could increase mileage and horsepower only by a very small percentage if at all — a percentage too small to be noticed by the driver who would not have means for engineering measurements and tests. Be careful not to be deceived by similarity of names. Some of the devices which have been found ineffective have names which resemble names of those which are of good design.

At the present time, the use of anti-detonant injection devices is not particularly important; if, however, car manufacturers should raise compression ratios a bit too much in some of the cars, or if economic conditions or military requirements should cause gasoline refiners to reduce materially the octane ratings of regular fuels now available at filling station pumps, anti-detonant injection might become important, indeed, might become a virtual necessity on some cars.

The *Gazda Octanator* and *Syncro-Valve* water carburetor devices were purchased and each was applied in turn to a 1948 *Plymouth*. Weather was clear and fair for all test runs and the engine was thoroughly warmed up before the test runs were made. Reports on *Octa-Gane* and *Vitameter* will be

presented in a subsequent BULLETIN.

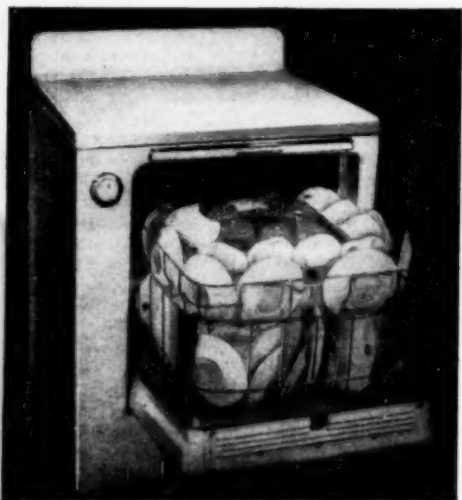
B. Intermediate (tentative)

Syncro-Valve Water Carburetor (Distributed by Lewis Machine Tool Co., 3217 Union Pacific Ave., Los Angeles 23) \$15 f.o.b. Los Angeles. Installation extra (about \$1.50). Similar in basic design to device illustrated in CR's July 1946 Bulletin. Consists of water supply tank, metering valve, and "vaporizing pressure plate." Supply tank to be attached to fire wall of car. Pressure plate to be inserted between carburetor and manifold. Water injected into manifold on the engine side of the carburetor butterfly (throttle) valve. Water supply tank (capacity about 9 pt.) requires refilling each time car takes on gas. Metering valve therefore controls quantity admitted to correspond to a maximum of about 300 miles and a minimum of 200 miles of driving per tankful of water. While water only is suggested by the manufacturer as the desirable fluid, water-alcohol and other solutions can presumably be used. In the winter it would be necessary to include about 35% of alcohol in the water in the tank to keep it from freezing; the cost of the alcohol would be about 60¢ per 200 to 300 miles, an increase of approximately 25% in operating cost over use of gasoline (regular grade) alone. A manually controlled visible-feed needle-valve permits changes in adjustment. A spring-loaded shut-off valve closes at high vacuum, so that the unit supplies water only when needed. The water supply available with this device is considered sufficient to provide some measure of carbon-removing effect. Claims for "more power," and "better mileage," could not be substantiated; detonation ("pinking"), however, was reduced to some extent. Care should be exercised to be sure that the small vent hole in the gasket of the filler cap of the water tank is open and so permit air to enter and to leave the tank when expansion occurs as the water warms up. (If this is not done there is a possibility of serious damage to the engine; during the night, within the test period, a half gallon or more of water found its way into the combustion chambers of the engine, apparently because the material of the filler-cap gasket swelled a little and so plugged up the vitally necessary vent hole.) Judged as of rather crude design and construction. 3

C. Not Recommended

Gazda Octanator (American Octanator Corp., Industrial Trust Bldg., Providence, R. I.) \$29.95. Installation cost extra (about \$2). Installation required about 45 minutes. Consists of a ceramic element enclosed in an aluminum case replacing the regular air filter supplied with the car. The ceramic is porous permitting the water fed into it from the radiator to evaporate and humidify the air entering engine intake system. Manufacturer claims use of permanent-type anti-freeze does not affect operation of the unit, as only water vapor from the radiator solution is carried into the motor. (This device would appear to call for use of permanent-type anti-freeze only, in the radiator system of the car.) Spark advance was changed by trial to 9° earlier than original factory setting. Tests indicated that the use of the *Octanator* did not noticeably reduce detonation, or improve the accelerating ability of the car. There may have been a slight increase in miles per gallon with the *Octanator* but if there was, the increase was so small as to be within the limits of error of the experiment. 3

The Hotpoint Dishwasher



Hotpoint Automatic Electric Dishwasher, Model MC-5

SINCE the latest report on automatic dish washing machines appeared in the March 1948 BULLETIN, Hotpoint Inc. have announced a new machine, the MC-5, advertised to contain 12 improvements over the older model. Among these were improved cabinet and tub design, new gasketless door, improved container for the detergent, new hinges, vent and safety switch, an improved timer, a slow-closing inlet valve, an open-type drain system to prevent flooding, improved dishracks, and a smaller diameter Calrod drying unit.

Tests of the modified Hotpoint have shown that the "improvements" have not been such as to improve its dishwashing ability significantly over that of the previous model. A careful investigation was made to determine why this machine gave inferior results to the *A-Recommended Apex Dishmatic*. Identical dishes, artificially soiled with the same types and amount of food wastes, were washed in both machines, and it was found that, while the *Apex Dishmatic* would satisfactorily wash heavily soiled dishes, it was necessary to scrape and rinse the soil carefully from the dishes before placing in the Hotpoint, if good results were to be obtained.

Hotpoint apparently recognize this shortcoming of their machine for, in a technical bulletin which they have issued discussing its abilities and limitations, they say:

The dishwasher is not a Disposall. Excess food waste of all kinds should be first removed by scraping or by a quick flush under the faucet. An excessive amount of food soil, whether in the form of solid food particles or grease, introduced into the dishwasher tends to overload the five quarts of water used for the washing operation with detrimental effects on the washing results.

They also state:

The temperature of the hot water at the dishwasher should be as close to 150°F as possible. If it falls below 140°F at this point, excessive film formation and poor washing must be anticipated. Water in excess of 160°F at the dishwasher is not desirable since it tends to "cook" food particles to the dishes.

In very few homes will it be possible to maintain a temperature of 150°F at the dishwasher. In many cases the location of the water heater may be such that considerable cooling takes place before the kitchen is reached. In such cases it might be well to insulate the hot-water pipe or even to move the heater closer to the dishwasher. In a number of tests made by CR, a similar condition was present in that, while 150°F water was available, considerable cold water ran through the machine before the hot water reached it. Thus the first spray and a part of some of the first washes were below the 150° temperature. Opening the nearest faucet on the same line as the washer to run cool water out of the pipe each time before operating the washer will usually provide an effective, if somewhat awkward, solution.

The statement that water in excess of 160°F at the dishwasher is not desirable has not been borne out in CR's tests, for in the *Apex Dishmatic*, which has its own built-in water heater to provide water at 180°F, no evidence of poor washing due to cooking of food particles on the dishes has been observed.

With water at 150°F at the machine and the dishes thoroughly scraped and rinsed before placing in the machine, the Hotpoint did a satisfactory job, but in CR's opinion a large part of the value of an automatic dishwasher is lost if the dishes must be practically prewashed by hand, particularly when machines are available which do not require such a thorough hand scraping and rinsing of the dishes.

Installation Expense

An important point of caution in connection with the purchase of any appliance requiring plumbing installation is to have an estimate made of the cost of installing in your individual house before buying. Costs, usually higher than the

nominal figures loosely quoted by appliance salesmen, are often raised materially by local conditions, and may amount to as much as \$125. The location of existing drains and hot-water supply pipes are an important factor, as likewise the local regulation that may prohibit connection to existing plumbing without creating an entire new drain. Further, plumbers have been known to increase their prices of installation when they did not profit directly from the sale of the appliance. Unless you are sure that the dishwasher can be safely plugged into any convenient electrical outlet, you should also include an allowance for the electrician's charge for connecting the appliance.

B. Intermediate

Hotpoint Automatic Electric Dishwasher (Hotpoint Inc., 5600 W. Taylor St., Chicago) Model MC-5 with porce-

lain enamel top and backsplash, \$289.95; MC-4 for building into kitchen cabinets, identical except for top, \$269.95; also MC-6 as used in sink combination. The complete cycle includes: (1) a 30-second spray, (2) 5-minute wash, (3) 10-second spray, (4) a second 5-minute wash, (5) 10-second spray, (6) 1-minute rinse, (7) 10-second spray, (8) 1-minute rinse, (9) 30-minute drying period. The entire cycle requires about 43 minutes. An electric door-switch automatically stops the operation should the door be opened before completion of the cycle. Average electrical consumption, 527 watt-hours per cycle; for 3 dishwashings per day, this would amount to about \$1.65 per month with electricity at 3½¢ per kwhr. not including cost of detergent or of heating water. (Cost of heating water for the dishwasher would run from \$1 to \$3 per month depending upon the method of heating used.) The *Hotpoint* did a fairly good job of washing, but only when dishes were thoroughly scraped and pre-rinsed before being loaded into the machine. Rubber-to-metal drain connection is of unsatisfactory design (pulls out readily). 3

Off the Editor's Chest

(Continued from page 2)

cents at wholesale. (In 1939, before government price supports were in effect, the average wholesale price was less than 18 cents.)

It would no doubt add to the housewife's wrath over the high cost of living to learn that cost of chicken feed to the farmer in August 1949 was down about 25 percent from a year ago and that hens have been laying better this year. The government's purchases, it may be noted, are being dried and stored in a mammoth cave at Atchison, Kansas, because there are no takers for the huge stocks of the dried product, large quantities of which are already in hand from the previous year.

Butter, once an important item on the consumer's table, has lost much of its market because it costs so much more than margarine. Government purchases to support the price level totaled 10 million pounds the first week of August 1949. Because of the government's action, butter rose in price from 59 to 62 cents a pound on the wholesale market and the retail price went up correspondingly. The amount of butter bought by the government up to that time in 1949 amounted to more than 20 million pounds, all paid for with the taxpayer's money. This butter can perhaps be better disposed of than potatoes and dried eggs through the school lunch program. It will therefore not be a total loss, and perhaps the housewife who cannot afford it on her home table will gain some comfort from the fact that her children may at least get it with their school lunches.

Robbing the consumer's pocketbook to pay high prices to the farmer for food that is wasted or given away will undoubtedly continue until the taxpayer-consumer gets sufficiently irritated that he becomes a formidable political threat. Each time the housewife buys potatoes, eggs, and butter, her family is gypped twice; once by an overcharge for the food, and once through pay roll taxes deducted from her husband's pay check which provide the government with funds to support the overcharge. That there is already some apprehension in government circles the consumer will not forever stand for being the "fall guy" is indicated by the Secretary of Agriculture's proposal of a complex scheme by which the price of farm products will be allowed to reach natural market levels and then the farmer will be subsidized for the differences between what the crops bring and what the government determines is a proper support price. That, of course, leaves the taxpayer still footing the bill, which is likely to be an even higher total than the sum he pays at present in high food prices plus taxes. The general feeling is that the costs of this so-called Brannan plan will likely be astronomical. (Those who offer the proposal decline to commit themselves to an estimate of the costs involved.)

Removing food subsidies altogether and allowing prices to seek their natural market levels would certainly bring prices down, since modern technology and farm science have enabled farmers to substitute efficient machines for backbreaking

labor; new insecticides and fertilizers have enabled them to produce increased yields on less acreage. In view of the fact that farm interests wield a most effective bloc of votes, however, it is quite unlikely that either of the political parties will risk farmers' displeasure by adopting a statesmanlike solution that would benefit taxpayers-consumers, i.e., everybody, but produce loud and vehement condemnation from a potent pressure group, who know what they want, even though they may have no idea of what is best for the economy. Housewives who really want to do something about

reducing the cost of their food budget will need to make their indignation felt where it counts, in Congress, instead of just complaining to their grocer, butcher, and members of their bridge club. They will need to take their pens in hand and write their legislative representatives in Congress that they disapprove of subsidizing certain sections of the population at consumer-taxpayers' expense. They are fully justified in supporting a position which is favorable to the interests of the whole economy, as contrasted with particular interest-groups which represent powerful minorities of the population.

Abridged Cumulative Index of Previous 1949 Consumers' Research Bulletins

Month and Page	Month and Page	Month and Page
Adhesives, chiefly for paper! Aug., 21-24	Food, consumption, increase of certain kinds needed Aug., 30	Radio receivers, FM, converter for! Feb., 9
Allergy, early recognition important Mar., 4	"flavor enhancer" Aug., 4	amplifier, announcement of new May, 8
to amino-azo dyes May, 4, 29	quality, relation to soil Aug., 3	antenna, FM! Apr., 21
Automobiles, new, breaking in Apr., 24-25	Food, Drug, and Cosmetic Act, adequate enforcement! Aug., 4, 29	high-fidelity, poor design Mar., 29
transmissions! Jan., 19-20	Food coloring, uncertified, use by government agency Sept., 30	loud-speakers! Feb., 19-22
gasoline, premium, needless use Apr., 29	Fuel oil, chemical for pretreating! Apr., 17-18	booklet available June, 23
driving habits Mar., 13	Garbage disposal units! Feb., 5-9	table-model! July, 11-12
1949! June, 5-12; July, 5-10; Aug., 5-11	Gas, natural, possibility of future shortage in some states Sept., 3	transformers, output, for audio amplifiers! Feb., 15
oils, motor, misleading advertising! Jan., 24	Golf balls! May, 9-10	Radio-photograph equipment, custom-made July, 26
saving by not changing frequently! Apr., 2, 25, 28	Hair curling preparations, new capsule Jan., 37-38; May, 4	Refrigerators, 1949! Sept., 5-10
subscribers' reports Jan., 15	Heaters, room, fan-type electric! Jan., 9-12	"gadgets"! Feb., 18
Beef, effective in preventing pernicious anemia Sept., 30	storage! Jan., 27-30	Rugs, products for skid-proofing! Sept., 14
Bread, new adulterants July, 29-30; Sept., 30	portable electric! Apr., 19-21	Rust remover! Mar., 30
Building hardware, finishing Apr., 9-14	Irons, automatic! Sept., 11-14	Salt shakers, free-running! July, 17
Cameras, developing and printing	combination steam and dry type! Jan., 5-8	Salt substitutes with lithium chloride, danger May, 3
kits! July, 25-26	Lawn mowers, power! Apr., 8; Aug., 20	Sewing machine accessories! May, 14-15
motion picture, 8 mm.! May, 22	Lawn mowing equipment! Apr., 22-23	Sheeting, new standards Aug., 25-26
war surplus! Jan., 20	Lighting, safeguards Aug., 16	Shirt, man's, white! Jan., 33
photographic color film! Jan., 8	Linoleum! Mar., 5-9; May, 3	Soap products and synthetic detergents, proper labeling needed for personal use May, 29
Polaroid Land! July, 16-17	Loud-speaker mounting! Sept., 10	Spectacles, rimless Sept., 3
roll-film! May, 22; July, 24	Meat, buying! Sept., 21-22	Spot and stain remover! July, 12
stereo! July, 25	refrigerator storing! Sept., 3	Stop-leak preparations for automobile water jackets and radiators! Sept., 25-26
testing service June, 22	Moisture condensation in the bathroom! July, 10	Sunburn preventives! June, 1-4
35 mm.! Mar., 25	Motion pictures! each issue	Television receivers! Mar., 14-15; May, 5-8
twin-lens reflex! May, 23; July, 24-25	Needle-threading device! Apr., 14	boosters for! Feb., 17-18
viewer, stereo! July, 25	Oil burners and a boiler-burner unit! Feb., 23-24	fire hazard May, 3
Candy, mfrs., propaganda Sept., 4, 29	heads, new, fuel savings! Aug., 17-19	obsolescence July, 18-20
Chemicals, poisonous, often carelessly used Sept., 10	Organs, electronic! May, 18-20	Tenderizer, meat, allergy Sept., 29
Cleaner, all-purpose! June, 28	Outboard motors! July, 13-15; Sept., 15-19	Textiles, deterioration of quality Sept., 3
comb! Mar., 36	Paint, oil-restricted, quality Mar., 18	Thermometers, household! Aug., 12-16
Containers, baby food, glass, care in opening Sept., 3	Peas and corn, fresh, glutamic acid content Sept., 4	Tonsters and a grill, automatic and semi-automatic! Apr., 15-16; June, 16-19
Corrections and emendations Jan., 32-33; Mar., 26; May, 28; June, 23; Sept., 19	Photograph needles, cactus! Feb., 16	Tomatoes, canned! Feb., 10-12
Crabgrass, control Aug., 19	pickup cartridges! Jan., 31-32	2, 4-D! May, 11-13
DDT, controlling house flies May, 29	record brush (Universal)! Feb., 30	Undershirts and shorts, men's! Jan., 16-18
danger to health June, 26-27; 4, 27	record-players, delay buying! Mar., 16	Utensils, cooking, copper-clad stainless steel! Jan., 25
Diapers! Feb., 13-15	system! Jan., 18	Vacuum bottles! July, 21-22
poisoning due to aniline dye laundry markings Sept., 29	records! each issue	Vacuum cleaner (Rexair), claims as therapeutic device! Sept., 4
Dictating machines! Mar., 10-13	buying economically new Columbia and Victor! May, 23, 28; June, 3, 26	Vacuum cleaners, hand! Jan., 13-15
Diet, adequate Mar., 36	Piano, buying—H! Mar., 22-23	Washing machines! Sept., 23-25
deficiencies May, 4	Poison ivy and poison oak, treatment Apr., 4	Windows, double-glazed! Jan., 21-24
faulty, cause of excess weight Mar., 3	Poisoning hazard, crayons Apr., 3-4	X-ray, for hair removal May, 30
increasing supply of meat and dairy products May, 4	Polish, furniture! May, 30	X-ray and atomic energy hazards! Apr., 3
Dishwashing machine! Feb., 25-26	Polisher, floor, electricity! May, 17	X-rays and shoe fitting July, 4
Dresses, house, buying hints Aug., 29	Projectors, slide! May, 21-22	
Drier, plastic, for stockings (Sal-T-Dri)! Jan., 38		
Editorial! each issue, page 2		
Fasteners, gripper-type, for clothing! Sept., 30		
Fluorescent lamps, hazard in breakage Mar., 17-18; June, 26 and fixtures May, 16-17		

indicates that listings of names or brands are included.

RATINGS of MOTION PICTURES

THIS section aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines—some 19 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

Box Office, *Charm*, *Chicago Daily Tribune*, *Cue*, *Daily News* (N.Y.), *The Exhibitor*, *Harrison's Reports*, *Motion Picture Herald*, *National Legion of Decency List*, *Newweek*, *New York Herald Tribune*, *New York Times*, *Parents' Magazine*, *Release of the I.A.R.*, *Premium Committee*, *Successful Farming*, *Time*, *Variety* (weekly), *Weekly Guide to Selected Motion Pictures* (National Board of Review of Motion Pictures, Inc.), and *Unbiased Opinions of Current Motion Pictures* which includes reviews by the General Federation of Women's Clubs, the American Legion Auxiliary, National Film Music Council, and others.

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), or C (not recommended) on its entertainment values.

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adr—adventure
biog—biography
c—in color (Technicolor, Cinecolor, Trucolor, Magnacolor, Vitacolor, etc.)
car—cartoon
com—comedy
cri—crime and capture of criminals
doc—documentary
dr—drama
fan—fantasy
fnd—founded on historical incident
mel—melodrama
mus—musical
mys—mystery
nov—dramatization of a novel
rom—romance
soc—social problem drama
trav—travelogue
war—dealing with the lives of people in wartime
wes—western

A	B	C	
—	3	4	Abbott and Costello Meet the Killer, Boris Karloff.....com AY
1	10	6	Adventure in Baltimore.....com AY
—	8	6	Africa Screams.....com AY
—	6	3	Against the Wind.....war-mel A
—	3	2	Agitator, The.....dr A
—	6	—	Air Hostess.....dr AY
—	—	11	Alimony.....mus-dr A
—	9	7	All Over the Town.....com AY
—	2	3	Amazon Quest.....mel A
—	2	10	Anna Lucasta.....dr A
—	10	8	Any Number Can Play.....cri-mel A
—	4	1	Arctic Fury.....mel AY
—	2	4	Arctic Manhunt.....cri-mel AY
—	4	1	Arson, Inc.....cri-mel AY
3	9	3	Bad Boy.....dr AY
—	2	6	Bandit, The.....mel A
—	2	3	Barbary Pirate.....mel A
—	1	4	Barber of Seville.....mus-dr A
3	14	1	Barkleys of Broadway, The.....mus-com-c A
—	6	10	Beautiful Blonde from Bashful Bend, The.....mus-wes-c A
—	8	6	Big Cat, The.....mel-c A
—	1	12	Big Jack.....dr A
—	5	1	Big Sombrero, The.....mus-wes-c AY
—	9	5	Big Steal, The.....mel A
—	3	3	Black Magic.....hist-dr A
—	1	2	Blazing Trail, The.....wes AY
—	3	7	Blind Goddess, The.....dr A
—	3	2	Blondie's Big Deal.....com AY
—	6	3	Blue Lagoon, The.....adr-c A
—	8	6	Bomba, the Jungle Boy.....adr-c AY

A	B	C	
—	4	12	Bride of Vengeance.....hist-dr A
—	2	1	Brimstone.....wes-c AY
—	5	5	Broken Journey.....mel A
—	3	3	Brothers in the Saddle.....wes A
—	7	8	Calamity Jane and Sam Bass.....wes-c A
—	8	8	Canadian Pacific.....mel-c AY
—	—	3	Caravan.....adv A
—	2	2	Challenge of the Range.....mus-wes AY
1	13	4	Champion.....mel A
—	2	1	Chicago Deadline.....cri-mel A
—	6	9	City Across the River.....cri-mel A
—	3	8	C-Man.....mel A
—	7	6	Colorado Territory.....wes A
2	11	2	Come to the Stable.....dr AY
—	14	3	Connecticut Yankee in King Arthur's Court, A.....mus-com-c AY
—	1	2	Courtin' Trouble.....mus-wes AY
—	7	4	Cover Up.....dr A
—	2	4	Crime Doctor's Diary, The.....mys-mel AY
—	1	10	Crooked Way, The.....cri-mel A
—	2	3	Daring Caballero, The.....wes A
—	1	7	Daughter of the Jungle.....adv AY
—	5	—	Daughter of the West.....wes-c A
—	3	9	Daybreak.....dr A
—	4	2	Death Valley Gunfighter.....wes AY
—	3	3	Dédée.....dr A
—	1	3	Desert Vigilante.....wes AY
—	9	2	Devil in the Flesh.....war-dr A
—	2	2	Devil's Daughter.....dr A
—	2	1	Devil's Ilenchmen, The.....cri-mel A
—	4	3	Don Quixote.....dr A
—	7	1	Doollins of Oklahoma, The.....wes A
4	11	1	Down to the Sea in Ships.....mel AY
—	2	5	Duke of Chicago.....mel AY
—	2	3	Easy Living.....dr A
—	6	3	Easy Money.....com A
—	13	8	Edward, My Son.....dr A
—	1	3	El Dorado Pass.....mus-wes AY
—	3	11	El Paso.....wes-c A
1	4	1	Fallen Idol, The.....dr A
—	5	9	Fan, The.....dr A
—	1	3	Father Was a Fullback.....com A
—	2	5	Fear No Evil.....dr A
—	5	1	Fighting Fools.....cri-mel AY
—	5	1	Flaming Fury.....mel AY
1	7	8	Flamingo Road.....dr A
—	3	2	Flight into France.....war-dr A
—	5	5	Follow Me Quietly.....cri-mel AY
—	4	11	Forbidden Street, The.....nov A
—	1	5	Forgotten Women.....dr A
—	9	8	Fountainhead, The.....dr A
—	5	2	Frontier Investigator.....wes AY
—	4	2	Frontier Revenge.....wes AY
—	4	2	Gay Amigo, The.....wes AY
—	9	5	Girl from Jones Beach, The.....com A
—	3	4	Girl in the Painting, The.....war-dr A
—	1	7	Great Dan Patch, The.....dr A
—	1	7	Great Gatsby, The.....dr A
—	4	10	Great Sinner, The.....dr A
—	1	8	Green Promise, The.....dr AY
—	1	5	Guagilo.....war-dr A
—	1	7	Guinea Pig, The.....dr AY
—	—	6	Gun Runner.....mus-wes AY
—	7	2	Hellfire.....mus-mel-c A
—	—	3	Hidden Danger.....wes AY
—	1	6	Hideout.....cri-mel A
—	3	1	His Young Wife.....dr A
—	3	3	Hold That Baby.....com AY
3	11	4	Home of the Brave.....propaganda-dr A
—	4	6	Homicide.....cri-mel A
—	—	3	House Across the Street, The.....cri-mel AY

A	B	C	
2	8	5	House of Strangers. dr A
—	4	1	I Am With You. dr AY
1	5	1	I Was a Male War Bride. war-com A
—	8	6	Illegal Entry. mel A
—	7	8	Impact. cri-mel A
2	11	2	In the Good Old Summertime. mus-com-c AY
—	1	2	Incorrigible. dr A
—	2	2	Iron Crown. dr A
—	2	8	It Always Rains Sunday. dr A
—	14	2	It Happens Every Spring. com AY
2	5	1	It's a Great Feeling. mus-com-c A
—	1	9	Jigsaw. dr A
—	5	1	Joe Palooka in The Big Fight. mel AY
—	7	9	Johnny Allegro. cri-mel A
—	7	2	Johnny Stool Pigeon. cri-mel A
2	6	1	Jolson Sings Again. mus-biog-c A
—	3	3	Judge, The. cri-mel A
—	5	9	Judge Steps Out, The. com A
—	4	4	Jungle Goddess. dr AY
—	5	3	Kazan. mel A
—	7	5	Kiss in the Dark, A. com A
1	8	6	Knock on Any Door. cri-mel A
—	5	7	Lady Gambles, The. dr A
—	6	—	Laramie. wes AY
—	7	3	Last Bandit, The. wes-c A
—	2	4	Last Stop, The. war-dr A
—	5	5	Law of the Barbary Coast. mel A
—	5	3	Law of the Golden West. wes AY
—	5	2	Lawton Story, The. dr-c A
—	6	1	Leave It to Henry. com AY
—	2	3	Life in Bloom. biog-c A
1	5	10	Life of Riley, The. com AY
2	6	9	Little Women. dr-c AY
—	3	6	Lone Wolf and His Lady, The. cri-mel A
2	13	2	Look for the Silver Lining. mus-com-c AY
1	10	1	Lost Boundaries. soc-dr AY
—	3	5	Lost Tribe, The. mel AY
—	1	3	Love Cheat, The. com A
—	3	2	Love Happy. mus-com A
—	4	—	Love Story. dr A
—	3	—	Lovers, The. dr A
10	5	—	Lust for Gold. mel-c A
—	4	8	Ma and Pa Kettle. com AY
—	2	6	Madame Bovary. dr A
—	3	—	Maid of Formosa. dr A
—	5	5	Make Believe Ballroom. mus-com AY
—	2	3	Make Mine Laughs. mus-com A
—	2	1	Man to Men. dr AY
1	5	6	Manhandled. mys-mel A
—	3	—	Marked Girls. dr A
—	3	8	Massacre River. mel-c A
—	1	2	Master of Bankdam. dr A
—	9	5	Mighty Joe Young. fan A
—	3	3	Miss Mink of 1949. com A
—	11	5	Mother is a Freshman. com-c AY
1	9	2	Mr. Belvedere Goes to College. com A
—	2	4	Mr. Soft Touch. mel AY
—	2	5	Mutineers, The. mel AY
—	3	4	My Brother Jonathan. dr A
—	6	7	My Dream is Yours. mus-com-c A
—	3	—	My Friend Irma. mus-com A
—	1	—	Nail, The. mel A
—	13	4	Neptune's Daughter. mus-com-c A
—	5	—	Night Time in Nevada. mus-wes-c AY
—	1	10	Night Unto Night. dr A
—	8	6	Not Wanted. soc-dr A
—	5	—	Omoo-Omoo. adv A
—	8	—	Once More My Darling. com A
—	4	7	Once Upon a Dream. com A
—	2	8	One Last Fling. com A
—	6	8	One Woman's Story. dr A
—	3	3	Operetta. mus-dr AY
—	3	2	Outcry. war-dr A
—	2	1	Outlaw Country. wes AY
—	4	11	Outpost in Morocco. mel A
—	1	3	Palace Scandal. dr-c A
1	4	5	Prejudice. propaganda-dr A
—	2	3	Prince of the Plains. wes AY
—	2	3	Professor, My Son. dr A

A	B	C	
2	14	1	Quartet. dr A
—	2	3	Queen of Spades, The. dr A
—	2	1	Quick on the Trigger. mus-wes AY
1	9	2	Quiet One, The. doc-dr A
—	2	5	Red, Hot and Blue. mus-com A
—	2	2	Red Light. dr A
—	7	7	Red Menace, The. propaganda-dr AY
—	5	4	Red Stallion in the Rockies. dr-c AY
—	5	2	Reign of Terror. hist-mel A
—	3	4	Ride, Ryder, Ride. wes-c AY
—	4	2	Riders of the Whistling Pines. mus-wes AY
—	4	—	Rimfire. wes AY
—	4	2	Ringside. dr A
—	2	2	Roll, Thunder, Roll. wes-c AY
—	8	5	Rope of Sand. mel A
—	4	—	Roseanna McCoy. mel A
—	7	7	Roughshod. wes A
—	3	—	Rozina, The Love Child. dr A
—	3	—	Rubens. doc AY
—	4	2	Rustlers. mus-wes AY
—	1	3	Rusty Saves a Life. dr AY
—	12	1	Sand. mel-c AY
—	8	5	Saraband. hist-dr-c A
—	4	—	Savage Brigade. dr A
1	5	—	Savage Splendor. doc-dr-c A
10	5	—	Scene of the Crime. cri-mel A
2	4	2	Scott of the Antarctic. dr-c AY
—	3	—	Search for Danger. mel A
1	8	1	Secret Garden. dr-c AY
—	1	2	Secret Mission. war-mel A
—	3	6	Secret of St. Ives, The. mel-c A
1	10	5	Set-Up, The. mel A
—	4	2	Shamrock Hill. mus-fan AY
2	3	—	She Wore a Yellow Ribbon. wes-mel-c AY
—	3	5	Sheriff of Wichita. wes AY
—	6	1	Sky Dragon. mys-mel AY
—	4	4	Slattery's Hurricane. mel A
—	6	5	Sleeping Car to Trieste. cri-mel A
—	2	2	Smoky Mountain Melody. mus-wes AY
—	2	10	Song of India. mel AY
1	13	2	Sorrowful Jones. com A
—	2	2	South of Rio. wes AY
—	9	7	South of St. Louis. wes-c A
—	7	3	Special Agent. cri-mel AY
—	3	3	Stagecoach Kid. wes AY
—	2	3	Stallion Canyon. wes-c AY
—	5	1	Stampede. wes AY
4	14	—	Stratton Story, The. dr AY
—	9	5	Streets of Laredo. wes-c A
—	2	4	Streets of San Francisco. cri-mel A
—	4	3	Susanna Pass. mus-wes-c AY
1	10	6	Take Me Out to the Ball Game. mus-com-c AY
—	1	10	Take One False Step. mys A
—	4	4	Tale of the Navajos. doc-c AY
—	6	6	Tarzan's Magic Fountain. fan AY
—	5	4	Temptation Harbor. dr A
1	4	1	Tomorrow's a Wonderful Day. doc-dr A
—	4	9	Too Late for Tears. cri-mel A
—	7	—	Top o' the Morning. mus-com AY
—	3	—	Trail of the Mounties. cri-mel AY
—	1	3	Trail of the Yukon. adv AY
—	2	6	Tucson. wes AY
2	10	2	Tulsa. mel-c AY
—	7	3	Tuna Clipper. mel AY
1	8	4	Undercover Man, The. cri-mel A
—	8	2	Walking Hills, The. wes A
—	3	2	Wandering Jew, The. dr A
1	10	5	We Were Strangers. mel A
—	3	5	Weaker Sex, The. com A
—	1	3	Wench, The. dr A
—	1	2	Wild Weed. mel A
1	14	1	Window, The. mys-mel AY
—	1	2	Woman Hater. com A
—	4	3	Woman Trouble. com A
—	3	9	Woman's Secret, A. mus-mel A
—	2	3	Wyoming Bandit, The. wes AY
—	—	4	Yank Comes Back, A. doc A
—	4	4	Yes Sir, That's My Baby. mus-com-c AY
—	4	5	Younger Brothers, The. wes-c A
2	6	3	You're My Everything. mus-com-c AY

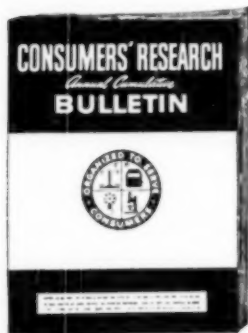
The Consumers' Observation Post

(Continued from page 4)

THE NEW FLUORESCENT DYES that are added to soap powder have a pronounced whitening effect on the first wash in some cases, reports Soap and Sanitary Chemicals, but in other cases the dyes do not reach their peak effect until after several washes. Some of the dyes are very sensitive to light, others to free chlorine in bleaches, and others are sensitive to both. The magazine points out that this sensitivity may cause a yellow discoloration of a white fabric due to the formation of colored decomposition products. The presence of a fluorescent dye is not required to be declared on the label, and the home-maker will have no way of knowing whether it is to be found in the particular soap powder she uses. Usually it is advertised as a new and magical ingredient, such as "Solium" in Rinso.

* * *

PREVENTION OF TOOTH DECAY, particularly among children, is the subject of much research and many advertising campaigns. It is fairly generally accepted that cutting down on the amount of sweets and other carbohydrates in the diet is one of the most effective methods of reducing dental caries, but always there are people who hope that they can go right on eating and drinking what they please and that some magical substance or drug will be found that will counteract the damage in some painless fashion. At one time it was thought that traces of fluoride added to the drinking water might provide the needed decay control. Applications by the dentist of silver nitrate and other chemicals were also held to have some value in making the teeth decay-resistant. Then it was discovered that the saliva from caries-immune people would produce ammonia at a faster rate than saliva from those susceptible to tooth decay. Following this observation, it was demonstrated that a dentifrice containing 5 percent dibasic ammonium phosphate and 3 percent urea was effective to some extent in reducing dental caries. Licenses are now being issued by the University of Illinois to various manufacturers to produce ammoniated dentifrices, and new advertising claims are being made in large-size type. Whether the new kind of tooth paste is that



*Have your friends been talking about
the new*

1949-50 Annual Cumulative Bulletin?

Just off the press, it turned out to be 228 pages instead of the 200 we promised. We just couldn't squeeze the volume of previously issued ratings and new information into the smaller number of pages.

Our findings are conveniently grouped in the Annual Cumulative Bulletin into the following sections: Household Appliances and Equipment; Housing, Home Maintenance and Repair; Heating Equipment and Fuel; Household Supplies and Furnishings; Photographic Equipment; Textiles and Clothing; Medicine and Hygiene; Radio and Phonograph Equipment; Automobile Supplies; Watches and Clocks; Cosmetics and Toilet Supplies; Writing Materials and Office Equipment; Sports Equipment.

The 1949-50 Annual Cumulative Bulletin, like its predecessors, is a confidential issue, available only for the personal use of an individual and his immediate family. (Sorry, no school, college, or library orders!) It is not included in a subscription to CR Bulletin (monthly), but is sent only on special order. There is a convenient order blank on the following page.

long-sought-for miracle or just another one of those things, only time will tell. At present the dental researchers are still not sure, and are conducting further tests.

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WANTED: LEAN BACON AND OTHER LEAN PORK PRODUCTS. Last April, reports The Wall Street Journal, the U.S. allocated 66 million pounds of pork for export to Britain, but that country balked at buying the fat-heavy pork carcasses we produce. Other nations too have shown lack of interest in our fat pork. Discriminating consumers in the U.S. have also complained at being obliged to pay bacon prices for lard, as they put it. Can't the skilled propaganda experts in the U.S. Department of Agriculture get busy and persuade farmers to produce lean bacon and ham such as were supplied by Denmark to Britain before the war?

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DERMATITIS OF THE FEET is not always "athlete's foot," points out a state medical journal, reporting the case of a man who had applied a fungicide to his feet with unhappy results. It turned out on expert examination and diagnosis that he was allergic to certain materials used in the lining and insole packing of his shoes, which had caused contact dermatitis of his feet. Treating the inflammation with a fungicide containing the drug dihydroxydichlorodiphenylmethane had further aggravated the irritated condition.

* * *

RECENTLY TESTED:

Handbag Caddy (E. M. Davis & Co., New York 18). \$1. This gadget consists of a small metal plate, faced with a soft rubber pad with a rough surface, to which is attached a large metal hook in such fashion that it will swivel into the proper position. A woman's umbrella or handbag with handles may be swung from a table or counter by simply placing the plate, rubber-side down, on the surface near the edge so that the metal hook swings free. The handles of the bag may then be dropped over the hook and will be held securely in place so that its owner need not hold the bag in her lap, place it on the floor, or hang it over the back of her chair in a restaurant. The device is well made and appears to be reasonably secure. A more inexpensive device designed for a similar purpose is **Handbag Valet**, sold in many variety chain stores at 29 cents. This is essentially a large metal hook of special shape, with rubber tips on each end, one of which is to be hooked over the edge of a counter or table, while the other provides a hook on which to hang a handbag or umbrella. The smooth rubber tip of this device was judged to offer less protection against slipping than the rough rubber mat of Handbag Caddy. Both devices are compact and take up little room in a handbag when not in use.

Consumers' Research, Inc. Washington, N. J.

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PHONOGRAPH RECORDS

BY WALTER E. GRUENINGER

Please Note: In the ratings AA indicates highly recommended; A, recommended; B, intermediate; C, not recommended. Although nearly all new releases of serious music are heard, space narrows comment, generally, to items which merit high ratings.

A Bach Program. Philadelphia Orchestra under Ormandy. 2 sides, Columbia LP 2058. \$3.85. Purists will object to these large scale transcriptions of "Passacaglia" and "Fugue in C Minor," "Sleepers Awake," etc., but others will bask in the luminous tone. The string tone is fainter in the "Passacaglia" than elsewhere, however, and also more wooly. A few clicks and surface scrapes.

Interpretation AA
Fidelity of Recording A

Beethoven: Quartet No. 4 in C Minor (Op. 18 No. 4). Paganini Quartet. 6 sides, RCA Victor Set 1308. \$4.75. Thoroughly enjoyable work from Beethoven's early period. Gay, buoyant performance with the right amount of firmness. Smooth English recording, not widest range or particularly resonant, but warm. The fine Budapest performance on Columbia Set 556 is more harshly and loudly recorded on noisier surfaces.

Interpretation AA
Fidelity of Recording A

Beethoven: Sonata No. 5 ("Spring"). Heifetz (violin), Bay (piano). 4 sides, RCA Victor Set 1283. \$3.50. A lovely work. Heifetz and Bay rush it onto four sides whereas competitors take six. Balance favors the violin, though slightly. Formidable competition comes from two sources: Goldberg and Kraus on domestic Decca and imported Parlophone, and Lener and Kentner on Columbia Set 404 which is delightfully gemütlich and well recorded.

Interpretation A
Fidelity of Recording A

Bruckner: Symphony No. 8. Hamburg Philharmonic Orchestra under Jochum. 21 sides, Deutsche Grammophon Set 17. \$28.50. A find for Brucknerites and other serious collectors. Only recording of this lengthy, romantic work, which may remind you of Schubert and Wagner. One could hardly ask for a better performance. Warm, wide range recording with just the right resonance. The highs are slightly less brilliant than current London sets but this suits Bruckner. Sides are coupled as though pressed for two separate album automatic sets, eight disks in one, three in the other, with one blank side. . . Overall, another sign of the wisdom of the London Gramophone Corporation in their selection of D-G and London sets for release in this country. Even those D-G sets recorded from 6 to 10 years ago, while lacking the brilliance of today's best, are adequate.

Interpretation AA
Fidelity of Recording AA

Chabrier: Suite Pastorale. London Philharmonic Orchestra under Martinon. 4 sides, London Set 90. \$5.25. Off the beaten path, this cheerful, graceful music, and worthy of more frequent hearing. Control and comprehension in the conducting. Commendable wide range recording. . . English Decca FFRR 78 and 33 rpm releases now appear in USA under the London label.

Interpretation AA
Fidelity of Recording AA

Mozart: Quartet No. 15 (K421). Hungarian String Quartet. 6 sides, RCA Victor Set 1299. \$3.25. Victor widely advertises the fact that their 45 rpm changer and record were designed for each other. Yet, using the Victor Berkshire player (GE diamond stylus pickup and other refinements) sides 2 and 6 of this set reached my ear as a series of grunts and squeals due to the slipping of these records on the ones below. Moreover, the pickup bounced on the second or third groove frequently, skipping opening passages of music. The last record played keeps repeating on this player since it has no automatic cutoff. Plenty of room for improvement in the 45 rpm setup. I find after listening to this and many other sets. Played manually, this set revealed a remarkably sensi-

tive performance of tragic yet elegant music that was recorded with warmth and pressed on nearly inaudible surfaces. The fidelity topped that of the fine Budapest-Columbia Set 462.

Interpretation AA
Fidelity of Recording A

Ravel: Concerto. Monique Hass (piano) with the NWDR Orchestra under Schnitzler-Isenstedt. 6 sides, Deutsche Grammophon Set 16. \$8.93. Jazz idiom and a soupçon of Paganini. Brilliant performance. Recorded this year, sounding very much like the fine FFRR pressings. Performance and recording superior to last year's Victor Set DV 15, with Victor's vinylite surfaces only a wee bit less noticeable. . . This will give you an inkling of why more and more European recorded items find their way into this column which gives preference to sets and LP disks deserving the highest ratings.

Interpretation AA
Fidelity of Recording AA

Schubert: Symphony No. 6 in C Major. London Symphony Orchestra under Krips. 8 sides, London Set 88. \$9.45. Early Schubert, not yet consistent in style. Splendid performance and lustrous, wide range recording easily superior to Victor Set 1014.

Interpretation AA
Fidelity of Recording AA

Strauss: Ein Heldenleben. Amsterdam Concertgebouw Orchestra under Mengelberg. 10 sides, Capitol-Telefunken Set 8013. \$7.87. Recorded about 1941 by the orchestra and conductor to whom the score was dedicated. The most impressive C-T set I have heard. The fidelity does not altogether come up to Columbia Set 748, but the performance is thrilling.

Interpretation AA
Fidelity of Recording A

Vivaldi: Gloria Mass. Zanolli, Giordano, Chorus of the Choral Academy, Lecco, etc. 2 sides, Polydor-Vox LP 6610. \$5.95. Stunning, showy work recorded for the first time. I care less for the performance of the soloists — who have little to do — than for the chorus and the orchestra. Although high strings sometimes sound distorted and fuzzy, voices are clear and robust. Altogether, a pleasing disk.

Interpretation A
Fidelity of Recording A

Folk Songs. Kathleen Ferrier (contralto). 6 sides, London Set 95. \$3.95. Northumbrian, Elizabethan and Irish folk-songs, mostly slow, sung with excellent diction by a rich-voiced recitalist.

Interpretation AA
Fidelity of Recording AA

RECOMMENDED SINGLE DISKS

COLUMBIA: Traubel sings *Anniversary Song* on 3-202; Piatigorsky and Berkowitz play a Mozart *Sonatina* on 3-249. DEUTSCHE GRAMMOPHON: Berlin Philharmonic plays *Die Fledermaus Overture* on 68043. Hear Völker sing Smetana on 67603, Ludwig sing Mozart on 68295, von Milinkovic sing Wagner's *Rienzi* on 68294, Hann sing *Flying Dutchman* on 67942.

LONDON: Dolmetsch plays the recorder on 10105/6. Gulda plays Chopin on 5123, Danco sings Caccini on 5121, Arie sings the *Death of Boris* on 5125, Concertgebouw Orchestra plays *Danse Macabre* on 5120, London Philharmonic plays Beethoven's *Coriolan Overture* on 5119.

RCA VICTOR: Boston Pops plays *Holiday for Strings* on 49-0407 and *Martha Overture* on 49-0418. Heifetz plays *On Wings of Song* on 49-0453, Biggs plays Haydn's *Musical Clocks* on 49-0419, Landowska harpsichords Scarlatti sonatas on 49-0476.

